Supreme Court, U.S.
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No. ——

IN THE

Supreme Court of the United States

APPALACHIAN POWER COMPANY, *et al.*,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED*

1. Whether the D.C. Circuit's decision affirming the Environmental Protection Agency's ("EPA" or "the Agency") consideration of costs, rather than air quality effects, in determining whether one state's emissions contribute "significantly" to nonattainment air quality in another state under the Clean Air Act ("CAA" or "the Act"), conflicts with decisions of this Court and other D.C. Circuit decisions requiring EPA to consider the relevant statutory factor in making regulatory decisions.

2. Whether EPA's interpretation of the Act to allow selection of a cost-effectiveness cut-off point, which rested on nothing "in the language or function of [CAA] § 110(a)(2)(D)(i)(I)" and involved an exercise of "essentially unbounded" discretion, did not violate the non-delegation doctrine because EPA's rule only affects "half of the nation" rather than "all American enterprise."

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* Both questions presented in this petition – which involve the role of costs in establishing Clean Air Act regulations, and the scope and applicability of the constitutional non-delegation doctrine in Clean Air Act rulemakings – are questions that are currently before the Court, in a different Clean Air Act context, in two related cases, *Browner v. American Trucking Ass'ns*, No. 99-1257, and *American Trucking Ass'ns v. Browner*, No. 99-1426. As a result, the Court may wish to postpone action on this petition until those cases are decided.

PARTIES TO THE PROCEEDINGS

1. The following Parties were petitioners in the consolidated proceeding, the judgment in which review is sought.

In No. 98-1497, State of Michigan, Michigan Department of Environmental Quality, and State of West Virginia, Division of Environmental Protection.

In No. 98-1588, State of Ohio.

In No. 98-1596, Commonwealth of Virginia.

In No. 98-1615, State of Alabama, *ex. rel.* Bill Pryor, Attorney General.

In No. 98-1617, State of Indiana and Indiana Department of Environmental Management.

In No. 98-1619, State of North Carolina.

In No. 98-1621, State of South Carolina.

In No. 98-1499, United Mine Workers of America.

In No. 98-1500, Appalachian Power Company, *et al.*, consisting of:

Appalachian Power Company;
Baltimore Gas and Electric Company (now referred to as Constellation Power Source Generation, Inc.)
Carolina Power & Light Company;
Central and South West Services, Inc.;
Central Power and Light Company;
Public Service Company of Oklahoma;
Southwestern Electric Power Company;
West Texas Utilities Company;
Central Illinois Light Company;
Central Illinois Public Service Company;
CINergy;

Columbus Southern Power Company;
Commonwealth Edison Company;
Consumers Energy Company;
Dayton Power and Light Company, The;
Detroit Edison Company, The;
Duke Energy Company;
Florida Power Corporation;
Illinois Power Company;
Indiana Michigan Power Company;
Jacksonville Electric Authority;
Kentucky Power Company;
Kentucky Utilities Company;
Louisville Gas and Electric Company;
Madison Gas and Electric Company;
Minnesota Power Company;
Monongahela Power Company,
d/b/a Allegheny Power System, Inc.;
Northern Indiana Public Service Company;
Oglethorpe Power Corporation;
Ohio Power Company;
Ohio Valley Electric Corporation;
Oklahoma Gas & Electric Company;
Otter Tail Power Company;
PacifiCorp Electric Operations;
Plains Electric Generation & Transmission
Cooperative, Inc.;
Potomac Edison Company, The,
d/b/a Allegheny Power System, Inc.;
Potomac Electric Power Company;
Public Service Company of New Mexico;
Salt River Project;
South Carolina Electric & Gas Company;

Southern Company;
Alabama Power Company;
Georgia Power Company;
Gulf Power Company;
Mississippi Power Company;
Savannah Electric and Power Company;
Tampa Electric Power Company;
Tucson Electric Company;
Union Electric Company;
Virginia Power;
West Penn Power Company,
d/b/a Allegheny Power System, Inc.;
Edison Electric Institute;
National Rural Electric Cooperative Association;
American Public Power Association.

In No. 98-1500, Duquesne Light Company.

In No. 98-1501, Midwest Ozone Group.

In No. 98-1502, West Virginia Chamber of Commerce.

In No. 98-1504, National Mining Association.

In No. 98-1518, West Virginia Manufacturers Association.

In No. 98-1556, City of Springfield, Missouri through the Board of Public Utilities, d/b/a City Utilities of Springfield, Missouri.

In No. 98-1567, Kansas City Power & Light Company;
St. Joseph Light & Power Company;
The Empire District Electric Company;
Utilcorp United, Inc.;
City of Independence, Missouri; and
Associated Electric Cooperative, Inc.

In No. 98-1573, Indianapolis Power & Light Company

In No. 98-1585, The Alabama Forestry Association, Inc. by and through its section The Alabama Pulp and Paper Counsel.

In No. 98-1590, Dairyland Power Cooperative.

In No. 98-1598, South Carolina Public Service Authority doing business as Santee Cooper.

In No. 98-1601, American Municipal Power-Ohio.

In No. 98-1602, Fort James Operating Company;
Gilman Paper Company;
Rayonier Inc.;
Savannah Electric & Power Company;
Southeast Paper Manufacturing Company;
International Paper Company.

In No. 98-1608, PP&L, Inc.

In No. 98-1609, Council of Industrial Boiler Owners.

In No. 98-1611, Network for Workable Air Policies.

In No. 98-1616, Georgia Coalition for Sound Environmental Policy, Inc.

In No. 98-1618, Interstate Natural Gas Association of America.

In No. 99-1070, Appalachian Power Company, *et al.*

In No. 99-1093, Wisconsin Paper Council;
Madison Gas and Electric Company;
Northern States Power Company;
Wisconsin Public Service Corporation;
Wisconsin Manufacturers & Commerce.

2. The following Party was a Respondent in the consolidated proceeding, the judgment in which review is sought.

U.S. Environmental Protection Agency.

3. The following Parties were Intervenors in the consolidated proceeding, the judgment in which review is sought.

Appalachian Power Company, *et al.*

Dairyland Power Cooperative.

Virginia Manufacturers Association.

South Carolina Public Service Authority d/b/a Santee Cooper.

Detroit Public Lighting;
Grand Haven Board of Light and Power;
Holland Board of Public Works;
Lansing Board of Water and Light;
Marquette Board of Light and Power;
Michigan South Central Power Agency; and
City of Wyandotte Department of Municipal Service.

GPU Generation, Inc.

American Gas Association.

Interstate Natural Gas Association of America.

Network for Workable Air Policies.

Business Council of Alabama.

Michigan Manufacturers Association.

State of Wisconsin.

State of New York;
State of Connecticut;
State of Maine;
State of New Hampshire;
Commonwealth of Pennsylvania;
State of Rhode Island;
State of Vermont; and
Commonwealth of Massachusetts.

State of Maryland.

Consolidated Edison Co. of New York, Inc.;
KeySpan Generation LLC;
Niagara Mohawk Power Corporation;
PECO Energy Company;
Public Service Electric and Gas Company;
Rochester Gas & Electric Corporation; and
PG&E Generating.

Natural Gas Supply Association; and
Sempra Energy.

Associated Industries of Massachusetts;
New England Council; and
New Jersey State Chamber of Commerce.

PP&L, Inc.;
Atlantic City Electric Company; and

Delmarva Power & Light Company.

Natural Resources Defense Council;
Environmental Law & Policy Center of the Midwest;
Clean Air Task Force;
American Lung Association of Metropolitan Chicago;
Appalachian Mountain Club;
Citizens Action Coalition of Indiana, Inc.;
Clean Air Council;
Environmental Defense Fund;
Group Against Smog and Pollution;
Hoosier Environmental Council;
Illinois Environmental Council;
Izaak Walton League of America;
Legal Environmental Assistance Foundation;
Michigan Environmental Council;
National Environmental Trust;
Natural Resources Council of Maine;
New York Public Interest Research Group;
Ohio Citizen Action;
Ohio Environmental Council;
U.S. Public Interest Research Group; and
Wisconsin's Environmental Decade Institute.

Province of Ontario, Canada;
Norman W. Sterling, Minister of the Environment, Province of Ontario;
Charles A. Harnick, Attorney General of the Province of Ontario; and
Christopher Carl Haromy.

4. The following were *Amici* in the consolidated proceeding, the judgment in which review is sought.

Toledo Metropolitan Area Council of Governments.

North Carolina Citizens for Business and Industry.

South Carolina Chamber of Commerce;
Environmental Management Association of South Carolina; and
South Carolina Manufacturers Alliance.

Government of Canada.

DISCLOSURE STATEMENT

1. The following list of petitioners discloses the parent companies of petitioners and any entity, other than the parents, that has a 10% or greater ownership interest in any of the petitioners.

Alabama Power Company
(parent: Southern Company)

Appalachian Power Company
(parent: American Electric Power Company, Inc.)

Baltimore Gas and Electric Company (now referred to as Constellation Power Source Generation, Inc.)
(parent: Constellation Energy Group, Inc.)

Carolina Power & Light Company
(10% or greater owner: State Street Bank & Trust Company Boston)

Central and South West Services, Inc.
(parent: Central and South West Corporation)

Central Illinois Public Service Company
(parent: Ameren Corporation)

Central Power and Light Company
(parent: Central and South West Corporation)

Columbus Southern Power Company
(parent: American Electric Power Company, Inc.)

Consumers Energy Company
(parent: CMS Energy Corporation)

Dayton Power and Light Company, The
(parent: DPL Inc.)

Detroit Edison Company, The
(parent: DTE Energy Company)

Florida Power Corporation
(parent: Florida Progress Corporation)

Georgia Power Company
(parent: Southern Company)
Gulf Power Company
(parent: Southern Company)
Illinois Power Company
(parent: Dynegy, Inc.)
Indiana Michigan Power Company
(parent: American Electric Power Company, Inc.)
Kentucky Power Company
(parent: American Electric Power Company, Inc.)
Kentucky Utilities Company
(parent: Kentucky Utilities which is a subsidiary of LGE Energy Corporation)
Louisville Gas & Electric Company
(parent: LGE Energy Corporation)
Mississippi Power Company
(parent: Southern Company)
Monongahela Power Company, dba Allegheny Power System, Inc.
(parent: Allegheny Energy, Inc.)
Northern Indiana Public Service Company
(parent: NiSource Inc.)
Ohio Power Company
(parent: American Electric Power Company, Inc.)
Otter Tail Power Company
(10% or greater owner: Otter Tail Power Company ESOP)
PacifiCorp Electric Operations
(parent: PacifiCorp)
Potomac Edison Company, The, dba Allegheny Power System, Inc.
(parent: Allegheny Energy Inc.)

Public Service Company of Oklahoma
(parent: Central and South West Corporation)
Savannah Electric and Power Company
(parent: Southern Company)
South Carolina Electric & Gas Company
(parent: SCANA Corporation)
Southwestern Electric Power Company
(parent: Central and South West Corporation)
Tampa Electric Company
(parent: TECO Energy, Inc.)
Tucson Electric Power Company
(parent: UniSource Energy Corporation)
Union Electric Company
(parent: Ameren Corporation)
Virginia Power
(parent: Dominion Resources, Inc.)
West Penn Power Company, dba Allegheny Power System, Inc.
(parent: Allegheny Energy, Inc.)
West Texas Utilities Co.
(parent: Central and South West Corporation)

2. The following petitioners have no parent corporations, and no entity has a 10% or greater ownership in any of these petitioners.

CINergy Corporation
Duke Energy Corporation
Jacksonville Electric Authority
Madison Gas and Electric Company
Minnesota Power
Oglethorpe Power Corp.
Ohio Valley Electric Corporation

Plains Electric Generation & Transmission Cooperative, Inc.
Potomac Electric Power Company
Public Service Company of New Mexico
Salt River Project
Southern Company
Edison Electric Institute
National Rural Electric Cooperative Association
American Public Power Association
National Mining Association
and
Midwest Ozone Group

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PETITION FOR A WRIT OF CERTIORARI

Industry Petitioners[1] respectfully petition for a writ of certiorari to review the decision of the United States Court of Appeals for the District of Columbia Circuit in *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000). Industry Petitioners include over sixty electric utility companies; the major trade associations for the electric utility industry (the Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association); the National Mining Association; and the Midwest Ozone Group.

OPINIONS BELOW

The opinion of the court of appeals (App. 1a-61a) is reported at 213 F.3d 663 (D.C. Cir. 2000), 341 U.S. App. D.C. 306. The orders on the petitions for panel and *en banc* rehearing and the court of appeals' mandate are included in the Appendix (App. 62a-67a).

JURISDICTION

The court of appeals entered its judgment on March 3, 2000. Timely petitions for panel and *en banc* rehearing were denied by orders of the court of appeals entered on June 22, 2000. The court's mandate issued on September 13, 2000. This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1).

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[1] Petitioners jointly filing this petition for a writ of certiorari are designated on the cover.

CONSTITUTIONAL, STATUTORY, AND REGULATORY PROVISIONS INVOLVED IN THE CASE

Article I, § 1, of the United States Constitution provides in pertinent part that "[a]ll legislative Powers herein granted shall be vested in a Congress of the United States...."

The relevant sections of the Clean Air Act, 42 U.S.C. §§ 7401-7671q, are set forth below:

Clean Air Act § 110(a)(2)(D), 42 U.S.C. § 7410(a)(2)(D), provides that:

> Each implementation plan submitted by a State under this chapter shall be adopted by the State after reasonable notice and public hearing. Each such plan shall —
>
> . . .
>
> (D) contain adequate provisions —
>
> (i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will —
>
> (I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or

> (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C of this subchapter to prevent significant deterioration of air quality or to protect visibility,
>
> (ii) insuring compliance with the applicable requirements of sections 7426 and 7415 of this title (relating to interstate and international pollution abatement).

Clean Air Act § 110(k)(5), 42 U.S.C. § 7410(k)(5), provides that:

> Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant national ambient air quality standard, to mitigate adequately the interstate pollutant transport described in section 7506a of this title or section 7511c of this title, or to otherwise comply with any requirement of this chapter, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies. The Administrator shall notify the State of the inadequacies, and may establish reasonable deadlines (not to exceed 18 months after the date of such notice) for the submission of such plan revisions. Such findings and notice shall be public. Any finding under this paragraph shall, to the extent the Administrator deems appropriate,

> subject the State to the requirements of this chapter to which the State was subject when it developed and submitted the plan for which such finding was made, except that the Administrator may adjust any dates applicable under such requirements as appropriate (except that the Administrator may not adjust any attainment date prescribed under part D of this subchapter, unless such date has elapsed).

The EPA rules at issue in this case are published at 63 Fed. Reg. 57,356 (1998). With the Clerk of the Court's permission, copies of the *Federal Register* notice containing the preamble and the final rules have been lodged with the Clerk of the Court.

STATEMENT OF THE CASE

The federal Clean Air Act ("CAA" or "the Act")[2] assigns different responsibilities to EPA and the states in order to achieve the Act's goal of "protect[ing] and enhanc[ing] the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." CAA § 101(b)(1). For example, EPA has responsibility under the Act's national ambient air quality standards ("NAAQS") program to develop ambient standards for air pollutants. CAA §§ 108, 109; *see American Trucking Ass'ns v. EPA*, 175 F.3d 1027, *modified on reh'g*, 195 F.3d 4 (D.C. Cir. 1999), *cert. granted*, 120 S. Ct. 2003, *and cert.*

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[2] 42 U.S.C. §§ 7401-7671q. Citations herein to the Act are to sections of the statute; the Table of Authorities includes parallel citations to the United States Code.

granted, 120 S. Ct. 2193 (2000), *Browner v. American Trucking Ass'ns*, No. 99-1257, and *American Trucking Ass'ns v. Browner*, No. 99-1426 (hereinafter referred to as "*ATA*"). Under CAA § 107(a), the states have the "primary responsibility" for ensuring that NAAQS are attained and maintained. *See also* CAA § 101(a)(3) ("...air pollution control at its source is the primary responsibility of States and local governments.") A state must, under CAA § 110(a)(1), develop and adopt a state implementation plan ("SIP"), which is a package of source-specific emission limits and other regulatory measures necessary to attain and maintain the NAAQS. SIPs must meet the requirements of CAA § 110(a)(2).

Although the states have the primary responsibility for determining how to attain and maintain the NAAQS, EPA retains oversight authority. Each state's SIP – and any revisions to a SIP – must be reviewed and approved by EPA. CAA § 110(k). EPA also has authority in certain circumstances to find a SIP "substantially inadequate" and to issue a "SIP call" requiring the state to revise its SIP. CAA § 110(k)(5).

EPA's oversight authority is not without limit, though. For example, courts have held that EPA may not, in the guise of a SIP call, order states to adopt any particular approach to achieve SIP requirements. *Virginia v. EPA*, 108 F.3d 1397, *modified on other grounds*, 116 F.3d 499 (D.C. Cir. 1997). Indeed, this Court has held that each state has authority to determine in the first instance what measures are necessary and appropriate in that state to "satisf[y] the standards of § 110(a)(2)." *Train v. NRDC*, 421 U.S. 60, 79 (1975).

In addition to spelling out the respective roles of EPA and the states in implementing the CAA, the Act contains provisions indicating that a variety of different criteria –

including public health protection and the cost and feasibility of pollution controls – are to be considered in making Clean Air Act regulatory decisions, depending on the nature of the regulatory decision in question. Over the past two decades, EPA has had considerable experience in deciding which factors are relevant under specific regulatory programs. The Court of Appeals for the D.C. Circuit, the only court with jurisdiction to review EPA actions having nationwide scope and effect (*see* CAA § 307(b)), has issued an array of opinions sometimes upholding, and sometimes setting aside, EPA's actions, based on whether EPA has properly considered (or has improperly ignored) factors relevant under the Act.

In many of these cases, including this one, the issue is whether cost is a relevant factor under the statutory provision, and if so, how cost may be considered. EPA's evaluation of the role of cost has resulted in a hodge-podge of D.C. Circuit opinions specifying different approaches for determining whether, and if so, how, EPA is to take cost into consideration in the creation and implementation of Clean Air Act regulatory programs.

For example, in a series of CAA cases concerning the adoption of NAAQS, the D.C. Circuit has read the Act's requirement that the NAAQS protect the public health and welfare with "an adequate margin of safety," CAA § 109(b)(1), as completely precluding EPA from considering cost when it decides at what level to set an ambient standard. The D.C. Circuit stated flatly that "the statute and its legislative history make clear that economic considerations *play no part* in the promulgation of ambient air quality standards under [CAA] Section 109." *Lead Indus. Ass'n v. EPA*, 647 F.2d 1130, 1148 (D.C. Cir.) (emphasis added), *cert. denied*, 449 U.S. 1042 (1980); *see also NRDC v. EPA*,

902 F.2d 962, 972-73 (D.C. Cir. 1990), *vacated in part on other grounds*, 921 F.2d 326 (D.C. Cir.), *cert. dismissed*, 498 U.S. 1075, *and cert. denied*, 498 U.S. 1082 (1991); *American Petroleum Inst. v. Costle*, 665 F.2d 1176, 1185 (D.C. Cir. 1981), *cert. denied*, 455 U.S. 1034 (1982). The D.C. Circuit's prohibition on the consideration of cost in the ambient-standard-setting process is currently under review by this Court in *ATA*.

In contrast, the D.C. Circuit, sitting *en banc*, unanimously held that the Act allows consideration of cost as a relevant factor in the implementation of another, essentially identical CAA provision: § 112 of the Act, which authorized EPA to set standards with "an ample margin of safety to protect the public health." *See NRDC v. EPA*, 824 F.2d 1146 (D.C. Cir. 1987). Specifically, the court read the language of § 112 as prohibiting EPA from considering cost at the time the Agency decides what is a safe level of emissions, while allowing EPA to take cost into account thereafter in deciding what margin of safety is needed to protect public health.

In the instant case, the D.C. Circuit adopted yet another formulation to govern the consideration of cost in implementing CAA provisions: specifically, in this case, §§ 110(a)(2)(D)(i) and 110(k)(5), addressing interstate pollutant transport. Section 110(a)(2)(D)(i) requires that each state's SIP contain provisions that prohibit, consistent with other provisions of Title I of the Act, any source or other type of emissions activity within that state "from emitting any air pollutant in amounts which will contribute significantly to nonattainment [of an ambient air quality standard] in ... any other State ...." CAA § 110(k)(5) provides that if the EPA Administrator finds that a state's SIP "is substantially inadequate ... to mitigate adequately" its interstate pollutant transport, then EPA is to issue a SIP call "as necessary" to

correct the inadequacy, giving the "called-upon" state up to 18 months in which to revise its SIP in order to "mitigate adequately" its interstate pollutant transport.

EPA addressed these interstate pollutant transport provisions for the first time in a rulemaking proceeding concerning the determination of measures needed to redress what EPA concluded was contribution to nonattainment of the NAAQS for ozone that EPA had adopted in 1971 and revised in 1979. 62 Fed. Reg. 60,318 (1997). In the 1980s, many areas did not attain the ozone NAAQS for several reasons, including the complexity of the ozone formation process. Unlike other pollutants, ozone is not directly emitted from sources but is formed from complex chemical reactions of nitrogen oxides ("NO_x") and volatile organic compounds ("VOCs") in heat and sunlight.[3] NO_x, which can both create and destroy ozone,[4] is emitted mainly by fuel-burning sources, including mobile sources (*e.g.*, cars, buses, and trucks), stationary sources (*e.g.*, power plants, refineries, and industrial boilers), and "area" sources (*e.g.*, furnaces in office buildings and homes). VOCs come from mobile sources, area sources, and certain stationary sources (*e.g.*, factories using or producing VOC-containing materials like solvents and paints). The amount of ozone formed depends on the proportions of VOCs and NO_x in the atmosphere at any given location. Thus, the same degree of reduction in NO_x and VOCs will not reduce ozone by the same amount

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[3] High ozone concentrations generally occur only during late spring and summer.

[4] Because NO_x emission reductions can cause ozone levels to increase, Congress enacted CAA § 182(f), waiving NO_x controls for major stationary sources where reducing NO_x would not improve air quality. *See New York v. EPA*, 133 F.3d 987 (7th Cir. 1998).

everywhere, and NO_x reductions may actually increase ozone.

To address many areas' failure to attain the ozone NAAQS, Congress, in the 1990 Amendments to the CAA, classified ozone nonattainment areas based on the severity of the area's ozone air quality and imposed new, detailed requirements for those areas based on their classification. CAA §§ 181-185B. Under these requirements, many former nonattainment areas have attained the ozone air quality standard. However, a few areas – including large urban areas in the Northeast, Chicago, and Atlanta – have remained ozone nonattainment areas subject to §§ 181-185B. Many of the states containing these nonattainment areas, particularly in the Northeast, have claimed that their failure to attain the ozone NAAQS is due at least in part to the transport of ozone and ozone precursors (NO_x and VOCs) from upwind states.

In response to concerns about ozone transport, EPA in 1995 established an informal organization – the Ozone Transport Assessment Group ("OTAG") – including representatives from 37 states in the eastern half of the United States. OTAG conducted air quality computer modeling in order to assess whether ozone transport is actually occurring and, if so, what measures or combinations of measures might be effective in addressing such transport. Following two years of study, in June 1997 the majority of OTAG states made several conclusions and recommendations. *See* 62 Fed. Reg. at 60,376-79. One conclusion, based on results of region-wide air quality modeling, was that ozone and its precursors originating in upwind states can be transported and can contribute to nonattainment of the standard downwind. However, because this conclusion was based on geographically broad, "region-wide" modeling, OTAG's principal recommendation was that

"states must have the opportunity to conduct additional local and subregional modeling and air quality analyses" and "develop and propose appropriate levels and timing of controls." *Id.* at 60,376. For electric utilities, OTAG recommended a range of various emission control levels, from nothing more than current CAA requirements up to substantially more stringent controls, with the ultimate choices dependent on results of the recommended refined air quality modeling. *Id.* at 60,378.

Ignoring OTAG's recommendation that states be allowed to conduct more refined modeling and develop and propose their own regulatory decisions regarding whether and to what extent additional emission controls are necessary, EPA began a rulemaking in which it concluded that NO_x – but not VOC – emissions from 22 states and the District of Columbia (hereinafter, the "23 states") "contribute significantly" to ozone nonattainment in violation of § 110(a)(2)(D)(i). 62 Fed. Reg. 60,318 (1997). EPA then promulgated a rule – the so-called NO_x SIP call rule – which required each of the 23 states to reduce its ozone-season NO_x emissions to meet an EPA-determined statewide NO_x emission tonnage "budget" or "cap." 63 Fed. Reg. 57,356 (1998).

A key issue in the rulemaking – and one of the main issues argued in the litigation below – concerned EPA's application of the criterion that governed EPA's determination that each of the 23 states was contributing "significantly" to ozone nonattainment air quality in one or more other states. After determining through air quality modeling whether the contribution of a given state's NO_x (and VOC) emissions to out-of-state ozone levels exceeded a very low "measurable" level, EPA determined whether that contribution was "significant" under § 110(a)(2)(D)(i) based solely on the cost-effectiveness of emission reductions.

Specifically, EPA decided that the amount of emissions contributing "significantly" to nonattainment air quality was the amount that, in EPA's view, would cost $2000 or less per ton of NO_x emissions to reduce — a criterion that is not related at all to the air quality effects of those emissions.

Upon review, a divided panel of the D.C. Circuit (Judges Williams and Rogers, with Judge Sentelle dissenting) agreed with EPA that the Agency could use the cost-effectiveness of emission reductions as the sole criterion to determine whether a state's contribution to ozone nonattainment air quality was "significant." 213 F.3d at 674-79, 683-84, App. 14a-25a, 34a. Although acknowledging petitioners' argument that EPA's approach would force two states, each with vastly different contributions to downwind nonattainment air quality, to make essentially the same relative emission reductions (*i.e.*, those emission reductions costing $2000 per ton or less) — irrespective of resulting air quality improvements, if any — the majority simply noted that "upholding ... [EPA's] decision [to use cost-effectiveness] logically entails upholding this consequence." *Id.* at 679, App. 25a.

In dissent, Judge Sentelle explained that "[t]he majority makes a fundamental mistake by divorcing the adverb 'significantly' from the verb it modifies, 'contribute,' ... [and] from the rest of the statutory provision in issue." *Id.* at 696, App. 59a. Moreover, Judge Sentelle noted that the majority's decision could not be reconciled with other decisions of the court – *Ethyl Corp. v. EPA*, 51 F.3d 1053 (D.C. Cir. 1995), and *American Petroleum Inst. v. U.S. EPA*, 52 F.3d 1113 (D.C. Cir. 1995) – requiring EPA to base regulatory decisions on the factor or factors found in the applicable statutory provision. *Id.* at 696, App. 58a-59a. Because EPA considered a criterion that Congress did not intend it to

consider in determining the significance or insignificance of a state's air quality contribution – *i.e.*, the cost-effectiveness of emission reductions (in dollars per ton of emissions removed) – Judge Sentelle would have set aside the rule.

Petitioners below also argued that EPA had not justified its $2000-per-ton cost-effectiveness cut-off point for calculating the amount of emissions that contributes "significantly" and therefore that EPA's action violated the constitutional non-delegation doctrine. The majority agreed that EPA's choice of a cost-effectiveness cut-off point was not based "on anything in the language or function of § 110(a)(2)(D)(i)(I)" and "was essentially unbounded." *Id.* at 680, App. 27a. Nevertheless, the majority held that because the rule affects only "half of the nation" and not "all American enterprise," the non-delegation doctrine was not violated. *Id.*, App. 28a.

The D.C. Circuit denied petitions for panel and *en banc* rehearing, with Judge Sentelle dissenting from the denials. App. 62a-65a.

REASONS FOR GRANTING THE PETITION

Industry Petitioners do not question that cost is to play a key role in the implementation of the CAA in general and in the implementation of the interstate pollutant transport provisions in particular.[5] However, contrary to basic principles of statutory interpretation and administrative law, EPA and the majority below fundamentally misconstrued the

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[5] Indeed, many of Industry Petitioners have also – as parties in *ATA*, now pending before this Court (Nos. 99-1257 and 99-1426) – filed briefs describing the role that costs should play in the establishment of ambient standards under the Act.

role of cost and cost-effectiveness in the implementation of these statutory provisions to authorize regulation that EPA deems "cost-effective" even when the regulation has not been justified on air quality grounds. Congress' intent in writing these provisions into the Act in 1990 was to establish a two-step process under which EPA must first, under § 110(a)(2)(D)(i), determine whether a state's contribution to nonattainment is "significant" based on the state's *air quality* contribution to out-of-state nonattainment air quality, not based on the dollars-per-ton cost of achieving emission reductions. Then, if an adequate showing of significant contribution has been made based on air quality effects, an affected state may, consistent with § 110(k)(5), take cost (or cost-effectiveness) into account in deciding the extent and nature of the control measures necessary "to mitigate adequately" its "significant" contribution to another state's nonattainment air quality.

The majority's decision upholding EPA's approach would allow EPA, in implementing § 110(a)(2)(D)(i), to ignore Congress' intent, as expressed in the language of the statute, regarding the relevant factor that must govern EPA's regulatory decisions. As discussed below, this result conflicts with this Court's case law and with other D.C. Circuit cases that have given effect to Congress' decision to constrain an Executive Branch agency's discretion by allowing the agency to consider only relevant factors provided in the statute in making regulatory determinations.

Finally, even if EPA were not prohibited from considering as its sole factor the cost-effectiveness of emission reductions in determining whether one state's contribution to another state's ozone nonattainment air quality is "significant," EPA could not, consistent with the Constitution, exercise the unbounded discretion in selecting a

cost-effectiveness cut-off point that the majority below found EPA had exercised. There is no basis in the law for the unprecedented new doctrine, created by the majority, that authorizes Executive Branch agencies to take action that is unbounded by *any* obligation to follow, discern, or articulate intelligible principles in a statute and that is unconstrained by any obligation to obey Congress' proscription against arbitrary and capricious action.

I. ALLOWING EPA TO DETERMINE "SIGNIFICANT" CONTRIBUTION BASED ON THE COST-EFFECTIVENESS OF EMISSION REDUCTIONS, RATHER THAN BASED ON THE AIR QUALITY EFFECTS OF EMISSIONS, CONFLICTS WITH BASIC PRINCIPLES OF STATUTORY INTERPRETATION AND ADMINISTRATIVE LAW AS REFLECTED IN THE DECISIONS OF THIS COURT AND THE D.C. CIRCUIT.

The panel majority below found that, because Congress had not expressly precluded EPA from considering cost-effectiveness in implementing § 110(a)(2)(D)(i), EPA could properly rely on cost-effectiveness, to the exclusion of air quality effects, in assessing whether one state's emissions contribute "significantly" to another state's ozone nonattainment air quality. Specifically, despite acknowledging that, under § 110(a)(2)(D)(i), EPA must first establish that a state's emissions result in "*a measurable [air quality] contribution*" to nonattainment in another state, 213 F.3d at 684, App. 34a (emphasis in original), the majority held that EPA may then properly ignore the air quality effects of the state's emissions and determine the amount of

emissions contributing "significantly" based solely on an EPA-selected cost-effectiveness criterion for reducing emissions. This novel reading of the Act is contrary to basic principles of statutory and administrative law and produces an absurd result: determining whether one state's emissions contribute "significantly" to another state's nonattainment air quality does not turn on whether, for example, those emissions come from a distant state and produce hardly any air quality impact, or come from a nearby state and produce a large air quality impact.[6] Rather, under EPA's approach, the significance *vel non* of an air quality contribution depends only on whether a state's emissions can be (in EPA's view) cost-effectively reduced.

Judge Sentelle, in dissent, examined the language and structure of § 110(a)(2)(D)(i) and concluded that Congress clearly did not intend to allow the cost-effectiveness of emission reductions to govern determinations of whether a contribution to nonattainment air quality is "significant" – a statutory criterion that on its face calls for defining and assessing air quality effects. As Judge Sentelle explained, the majority improperly divorced the adverb "significantly" from the verb it modifies, "contribute," and from the rest of § 110(a)(2)(D)(i), which addresses the amount of emissions and the effect of that amount on air quality: "Given [§ 110(a)(2)(D)(i)(I)'s] mandate as a whole, it becomes clear that EPA and the majority have to contort the statute's language by isolating the term significantly and ignoring the terms air pollutant, amounts, and contribute in order to work

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[6] The majority acknowledged this result but simply made the circular observation that its decision "logically entails upholding this consequence." 213 F.3d at 679, App. 25a.

cost considerations into the statute." 213 F.3d at 696, App. 59a-60a.

Judge Sentelle is correct. The statute's language makes plain that Congress decided that EPA's evaluation of whether one state's emissions do or do not contribute significantly to nonattainment air quality in another state must be based on an analysis of *air quality* contribution, not on the cost of achieving emission reductions irrespective of the air quality effects of those reductions. EPA's approach would read Congress' limitation of "significance" out of the Act, would preclude states from knowing whether their contributions were "significant" until EPA defined "cost-effectiveness," and would allow EPA to take from the states the primary responsibility for implementing § 110(a)(2)(D)(i), contrary to congressional intent. Moreover, a state's continuing compliance with § 110(a)(2)(D)(i) would depend not on the interstate air quality effects of its emissions, but on the changing costs of emission controls (and the resulting change in those controls' dollar-per-ton-reduced cost-effectiveness) as determined by EPA. This result cannot be reconciled with the air quality purposes of the Act or with fundamental principles of law.

In observing that "no reasonable reading of the statutory provision in its entirety allows the term significantly to springboard costs of alleviation into EPA's statutorily-defined authority," 213 F.3d at 696, App. 59a, Judge Sentelle was mindful of the well-established principle that an agency's authority to promulgate regulations is limited to the authority delegated to it by Congress. *See id.*, App. 58a (citing *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988)). In reviewing an agency's action, courts may not presume that Congress has delegated authority to the agency whenever Congress has not expressly withheld that authority

from the agency. Otherwise, agencies would "enjoy virtually limitless hegemony" contrary to Article I, § 1, of the Constitution. *Oil, Chemical, and Atomic Workers Int'l Union v. NLRB*, 46 F.3d 82, 90 (D.C. Cir.) (citation omitted), *cert. denied*, 516 U.S. 821 (1995); *see also Industrial Union Dep't v. American Petroleum Inst.*, 448 U.S. 607, 646 (1980) (finding that the Secretary of Labor, in assessing "significant" risk of harm, could not substitute cost considerations for the statute's decisional criterion, risk of harm to health).

The majority's decision below stands for the proposition that an Executive Branch agency may with impunity ignore this well-established principle and make regulatory decisions without regard to the statutory language. Instead of requiring EPA to conduct an evaluation of the "significance" of a contribution based on air quality effects, as Congress instructed, the majority allowed EPA to exercise authority to determine "significance" based entirely on an irrelevant statutory factor, the cost-effectiveness of reducing emissions.

The majority's opinion not only conflicts with basic principles of law announced in precedents of this Court, as discussed above, it also ignores D.C. Circuit cases holding that EPA may not supplant the decisional criterion that Congress provided in the statute with an irrelevant decisional criterion in order to implement the Agency's policy preferences. For example, in *Ethyl Corp. v. EPA*, 51 F.3d 1053 (D.C. Cir. 1995), the D.C. Circuit relied on this principle in rejecting EPA's use of an "adverse health" criterion in the context of a statutory provision that did not include adverse health effects as the decisional criterion. *Ethyl* involved CAA § 211(f)(1), which prohibits new fuel additives unless they are "substantially similar" to additives already in use. A waiver for a new additive can be obtained

if the additive will not "cause or contribute to a failure of any emission control device...." CAA § 211(f)(4). Although EPA found that the additive in question would not cause or contribute to such failure, it denied the requested waiver based on uncertainty about the additive's effects on public health. The court concluded that the determination whether an additive would "contribute to a failure" of a control device may be based only on "the effects of a fuel additive[]" on emission control devices, not on concerns about health effects, and ordered EPA to issue the waiver. *Ethyl*, 51 F.3d at 1060; *see also American Petroleum Inst. v. U.S. EPA*, 52 F.3d 1113 (D.C. Cir. 1995) (striking down EPA's reformulated gas oxygenate requirement because EPA based its decision on economic benefit rather than the relevant CAA factor, reduction of VOCs).

These precedents all stand for the principle that an agency must base its regulatory decisions on the decisional criterion specified by Congress in the statute. In § 110(a)(2)(D)(i), Congress specified air quality effects as the *sole* decisional criterion for assessing the "significance" of a contribution to nonattainment air quality. Once a state has been found to have emissions that contribute significantly to another state's nonattainment air quality, Congress provided, through § 110(k)(5)'s requirement "to mitigate adequately" the significant interstate air quality contribution, a means for costs to be considered. By contrast, EPA's NO_x SIP call rule does not define "contribute significantly to nonattainment" based on § 110(a)(2)(D)(i)'s decisional criterion: air quality effects. Rather, EPA substituted, for the statutory criterion of air quality effects, its $2000-per-ton cost-effectiveness cut-off point.

Because the majority's decision below conflicts with precedent of this Court and D.C. Circuit law establishing that

an agency must base its decisions on the criteria that Congress provided, this Court should grant certiorari.

II. THE COURT OF APPEALS' DECISION TURNS UPSIDE-DOWN THE PRINCIPLE OF UNCONSTITUTIONAL DELEGATION.

In reviewing rules adopted by administrative agencies, the D.C. Circuit has used two different standards for evaluating the agency's exercise of discretion. Under one approach – that followed in *ATA*, now under review in this Court – the D.C. Circuit evaluated whether the agency had articulated an intelligible principle under the statute to govern its action and, in the absence of articulation of an intelligible principle, held that the agency's action violated the Constitution's non-delegation doctrine. In the other approach, the court evaluated the agency's exercise of discretion pursuant to the "arbitrary and capricious" standard of the Administrative Procedure Act ("APA"), 5 U.S.C. § 706(2)(A), or similar standards found in specific statutes such as CAA § 307(d)(9).[7] Whichever of these two standards the court applied, however, it consistently – and properly – refused to leave undisturbed an agency's "unbounded" exercise of discretion.

In this case, by contrast, the majority applied neither standard. Rather, the court created an unprecedented new legal standard – one that authorizes Executive Branch

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[7] *See, e.g., American Lung Ass'n v. EPA*, 134 F.3d 388, 391-93 (D.C. Cir. 1998), *cert. denied*, 120 S. Ct. 58 (1999); *see generally American Trucking Ass'ns v. EPA*, 195 F.3d 4, 14-16 (D.C. Cir. 1999) (Silberman, J., dissenting), *cert. granted*, 120 S. Ct. 2003, *and cert. granted*, 120 S. Ct. 2193.

agencies to act unbounded by any obligation to follow, discern, or articulate intelligible principles in a statute *and* unfettered by any obligation to obey Congress' proscription against arbitrary and capricious action.

In upholding EPA's significant contribution determination, the majority recognized that "EPA's cost-effectiveness criterion [$2000 per ton of emissions reduced] is a radically incomplete line-drawing device" and that EPA "*neither rests that benchmark on anything in the language or function of § 110(a)(2)(D)(i)(I)*, nor otherwise explains why the resulting cut-off point represents the right degree of 'cost-effectiveness' (*i.e.*, why 'highly cost-effective' should be at that 'height')." 213 F.3d at 680 (emphasis added), App. 27a. Accordingly, the panel held, EPA's "*selection of the cut-off point was essentially unbounded.*" *Id.* (emphasis added).

Despite this holding, the panel stated that EPA's selection of its $2000-per-ton cut-off point does not run afoul of the Constitution's non-delegation doctrine because, unlike the rules at issue in *ATA*, the rule does not affect "all American enterprise" and imposes "substantial" control costs on only "[n]early half of the nation." *Id.*, App. 28a. The panel's opinion, if left undisturbed by this Court, would stand for the startling proposition that the question whether the Constitution's non-delegation doctrine applies depends on a court's view at any given time of the number of states, companies, or industries affected by the Executive Branch action being reviewed – and that no constitutional constraint on Executive Branch authority exists if an action affects no more than "half of the nation" or less than "all American enterprise."

Even if the non-delegation doctrine were not implicated by the panel's conclusions regarding EPA's selection of its $2000-per-ton cut-off point, then at the very least the panel's

conclusions should lead to the rejection of EPA's unbounded exercise of discretion as a violation of Congress' proscription, in the APA, of agency action that is arbitrary and capricious. Rather than applying the congressionally mandated APA standard of review available to persons entitled to relief from arbitrary and capricious agency action, however, the majority allowed EPA's unbounded exercise of discretion to go unchecked by *any* guiding principle and free from *any* effective judicial review. This approach is inconsistent with the law and should not be allowed to stand.

CONCLUSION

For the foregoing reasons, Petitioners respectfully request that this petition for a writ of certiorari be granted.

Respectfully submitted,

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September 20, 2000

APPENDIX

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued November 9, 1999 Decided March 3, 2000

No. 98-1497

STATE OF MICHIGAN,
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY AND
STATE OF WEST VIRGINIA, DIVISION OF
ENVIRONMENTAL PROTECTION,
Petitioners

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondent

NEW ENGLAND COUNCIL, INC., *et al.*,
Intervenors

Consolidated with

98-1499, 98-1500, 98-1501, 98-1502, 98-1504, 98-1518, 98-1556, 98-1567, 98-1573, 98-1585, 98-1588, 98-1590, 98-1596, 98-1598, 98-1601, 98-1602, 98-1608, 98-1609, 98-1611, 98-1615, 98-1616, 98-1617, 98-1618, 98-1619, 98-1621, 99-1070, 99-1093

On Petitions for Review of an Order of the
Environmental Protection Agency

Susan E. Ashbrook, Assistant Attorney General, State of Ohio, *James C. Gulick,* Special Deputy Attorney, State of North Carolina, *Andrea B. Field, Theodore L. Garrett,*

Todd Palmer, Jonathan S. Martel, William F. Pedersen and *Scott H. Segal* argued the causes for petitioners. With them on the briefs were *Betty D. Montgomery*, Attorney General, State of Ohio, *Andrew S. Bergman*, Assistant Attorney General, *Michael F. Easley*, Attorney General, State of North Carolina, *J. Allen Jernigan*, Special Deputy Attorney General, *James P. Longest, Jr.*, and *Amy R. Gillespie*, Assistant Attorneys General, *Bill Pryor*, Attorney General, State of Alabama, *Tommy E. Bryan*, Assistant Attorney General, *Jeffrey Modisett*, Attorney General, State of Indiana, *Daniel B. Dovenbarger*, Chief Counsel, *Jennifer M. Granholm*, Attorney General, State of Michigan, *Thomas Casey*, Solicitor General, *Alan F. Hoffman*, Assistant Attorney General, *Charles M. Condon*, Attorney General, State of South Carolina, *Mark E. Earley*, Attorney General, State of Virginia, *Roger L. Chaffe*, Senior Assistant Attorney General, *Stewart T. Leeth*, Assistant Attorney General, *Thomas H. Zerbe*, Senior Counsel, State of West Virginia, *Samuel L. Finklea, III, Grant Crandall, Eugene M. Trisko, Norman W. Fichthorn, Mel S. Schulze, David M. Flannery, Kathy Beckett, Harold P. Quinn, Jr., Michael D. Hockley, J. Lister Hubbard, R. Brooke Lawson, III, Robert E. Lannan, II, Terry J. Satterlee, Alok Ahuja, Mark E. Shere, Bryan G. Tabler, Jeffrey L. Landsman, Jennifer S. McGinnity, Howard E. Shapiro, Margaret Claiborne Campbell, Thomas E. Knauer, David R. Straus, Deborah E. Jennings, Julie R. Domike, Patricia T. Barmeyer, Lisa G. Dowden, Brian J. Renaud, Rhonda L. Ross, Jeffrey F. Cherry, Katherine L. Rhyne, John M. Koeppl, Henry J. Handzel Jeffrey A. Knight, Joan Dreskin, Kevin B. Belford, Pamela A. Lacey, Gene E. Godley, Michael H. Levin* and *Edmund B. Frost. Earle D. Getchell Jr., Neal J. Cabral, Christopher D. Man, Jacqueline H. Fine, Jon S. Faletto* and *John P. Proctor* entered appearances.

James E. Doyle, Attorney General, State of Wisconsin, and *Philip Peterson* and *Thomas L. Dosch*, Assistant Attorneys General, were on the brief for intervenor State of Wisconsin.

Louis E. Tosi and *William L. Patberg* were on the brief for amicus curiae Toledo Metropolitan Area Council of Governments.

Charles S. Carter and *Deborah Ann Hottel* were on the brief of amici curiae South Carolina Chamber of Commerce, Environmental Management Association of South Carolina, South Carolina Manufacturers Alliance, and South Carolina Farm Bureau Federation.

Jon M. Lipshultz and *Patricia R. McCubbin*, Attorneys, U.S. Department of Justice, argued the causes for respondent. With them on the brief were *Lois J. Schiffer*, Assistant Attorney General, and *Jan Tierney*, *Howard Hoffman*, *Amey W. Marrella* and *Dwight C. Alpern*, Attorneys, U.S. Environmental Protection Agency.

J. Jared Snyder, Assistant Attorney General, State of New York, argued the cause for state intervenors. With him on the brief were *Elliot Spitzer*, Attorney General, *Peter H. Schiff*, Deputy Attorney General, *Thomas F. Reilly*, Attorney General, State of Massachusetts, *William L. Pardee*, Assistant Attorney General, *M. Dukes Pepper, Jr.*, Assistant Counsel, State of Pennsylvania, *Sheldon Whitehouse*, Attorney General, State of Rhode Island, *Michael Rubin*, Environmental Advocate, *William H. Sorrell*, Attorney General, State of Vermont, *Ronald A. Shems*, Assistant Attorney General, *Jennifer L. Wurzbacher*, Assistant Attorney General, State of Maryland, *Richard Blumenthal*, Attorney General, State of Connecticut, *Richard F. Webb*, Assistant Attorney General, *Andrew Ketterer*, Attorney General, State of Maine, *Paul Stern*, Deputy Attorney General, *Philip McLaughlin*, Attorney General, State of New Hampshire, and *Maureen D. Smith*, Assistant Attorney General.

Kathleen L. Millian argued the cause for intervenor Her Majesty the Queen in Right of Ontario (Province of Ontario, Canada). With her on the brief was *Bruce J. Terris*.

David Hawkins and *Raissa Griffin* were on the brief for intervenor Natural Resources Defense Council, et al. *Andrew P. Caputo* entered an appearance.

Patrick M. Raher, John G. Roberts, Jr., Catherine E. Stetson, Michael R. Barr, Michael A. Conley, Theresa Fenelon Falk, John H. Sharp, Paul G. Wallach and *Kenneth R. Meade* were on the brief for industry intervenors.

Richard A. Wegman was on the brief for intervenor the Government of Canada.

Before: WILLIAMS, SENTELLE and ROGERS, *Circuit Judges*.

Opinion *Per Curiam*.*

Dissenting opinion filed by *Circuit Judge* SENTELLE.

Introduction

Under the Clean Air Act the Environmental Protection Agency promulgates national ambient air quality standards ("NAAQS") for air pollutants, and states must then adopt state implementation plans ("SIPs") providing for the implementation, maintenance, and enforcement of the NAAQS; such plans are then submitted to EPA for approval. *See* Clean Air Act ("CAA") § 110(a)(1), 42 U.S.C. § 7410(a)(1) (1994). Even after a SIP is approved, EPA may at a later time call for SIP revisions if the Administrator finds a SIP inadequate to attain or maintain the NAAQS, to meet the dictates of pollutant transport commissions, or "to otherwise comply with any requirement of this chapter." CAA § 110(k)(5), 42 U.S.C. § 7410(k)(5).

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* Judge Williams wrote Parts I.B-C and II.B; Judge Sentelle wrote Parts I.A, II.A, II.C, and III.A; Judge Rogers wrote Parts III.B and IV.

In October 1998 EPA issued a final rule mandating that 22 states and the District of Columbia revise their SIPs to mitigate the interstate transport of ozone.[1] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone ("Final Rule"), 63 Fed. Reg. 57,356 (1998). The statutory hook for EPA's action was a 1990 amendment to the Clean Air Act which requires that SIPs contain "adequate provisions" prohibiting

> any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard.

CAA § 110(a)(2)(D)(i)(I), 42 U.S.C. § 7410(a)(2)(D)(i)(I) (1994). EPA uniformly required that each state reduce nitrogen oxides (NO_x—an ozone precursor) by the amount accomplishable by what EPA dubbed "highly cost-effective controls," namely, those controls EPA found capable of removing NO_x at a cost of $2000 or less per ton. Numerous petitions for review challenge various aspects of EPA's decision.

In Part I we reject the following claims: that EPA could not call for the SIP revisions without convening a transport commission; that EPA failed to undertake a sufficiently state-specific determination of ozone contribution; that EPA unlawfully overrode past precedent regarding "significant" contribution; that EPA's consideration of the cost of NO_x reduction violated the statute; that EPA's scheme of uniform

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[1] The states are Alabama, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, North Carolina, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin.

controls is arbitrary and capricious; that CAA § 110(a)(2)(D)(i)(I) as construed by EPA violates the non-delegation doctrine.

In Part II we hold that the record does not support including Wisconsin in the SIP call, nor does it support creating NO_x budgets based on the entire emissions of Missouri or Georgia. We reject the claim that South Carolina was improperly included in the SIP call.

In Part III we reject the claim that EPA impermissibly intruded on the statutory rights of states to fashion their SIPs. We also reject the claim that EPA violated the Regulatory Flexibility Act.

In Part IV we reject the claim that EPA arbitrarily revised the definition of a "NO_x budget unit." We reject all of the claims raised by the Council of Industrial Boilers save one: we hold that EPA failed to provide adequate notice of a change in the definition of an electric generating unit. We also hold that EPA did not provide adequate notice of a change in the control level assumed for large, stationary internal combustion engines, but we reject the claim that EPA failed to follow its own standards in defining such engines. Finally, we uphold EPA's limits on early reduction credits, and EPA's use of a 15% multiplier for calculating emissions from low mass emission units.

We note at the outset that one challenge has been stayed. In 1979, EPA set the acceptable level for ozone in the ambient air at 0.12 parts per million ("ppm"), averaged over intervals of one hour. This standard is commonly known as the "1-hour standard." By 1997, EPA had concluded that the 1-hour standard no longer adequately protected public health. *See* National Ambient Air Quality Standards for Ozone, 62 Fed. Reg. 38,856 (1997). Pursuant to the agency's statutory mandate to review and revise NAAQS as appropriate, 42 U.S.C. § 7409(d)(1), EPA promulgated a new, more stringent

"8-hour standard" which limits ozone levels to 0.08 ppm, averaged over an 8-hour period. *See* 62 Fed. Reg. 38,856 (codified at 40 C.F.R. § 50.10).

EPA has undertaken the phasing out of the 1-hour standard on an area-by-area basis, mandating that the standard would no longer apply to an area once it is "determine[d] that the area has air quality meeting the 1-hour standard." 40 C.F.R. § 50.9(b). The call for SIP revisions in question here requires the covered upwind states to submit SIP revisions pursuant to the 8-hour standard even though EPA was not designating any 8-hour nonattainment areas prior to July 1999. *See* 63 Fed. Reg. at 57,370; Transportation Equity Act for the 21st Century, Pub. L. No. 105-178, § 6103, 112 Stat. 107, 465 (1998) (providing that states submit suggested designations no later than July 1999 and EPA finalize those designations no later than July 2000). EPA maintains that it has the authority to include the 8-hour standard in the current § 110(a)(2)(D)-specific SIP call pursuant to its authority under § 110(a)(1). Section 110(a)(1) provides that

> [e]ach State shall . . . adopt and submit to [EPA], within 3 years (or such shorter period as [EPA] may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof) . . . , a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State.

42 U.S.C. § 7410(a)(1).

State and Industry/Labor petitioners initially attacked the challenged SIP call on the basis that EPA exceeded its statutory authority and acted arbitrarily in basing the SIP call on the 8-hour standard when the agency had not yet designated any areas as being in nonattainment under the new standard. After petitioners' final briefs were submitted, we held in *American Trucking Ass'ns, Inc. v. EPA*, 175 F.3d

1027, *reh'g granted in part, den'd in part* 195 F.3d 4 (D.C. Cir. 1999), that the new NAAQS based on the 8-hour standard was derived from a construction of the Clean Air Act that rendered the relevant provision an unconstitutional delegation of legislative power and remanded the case to the agency. *See id.* at 1033-40. Seizing on this holding, petitioners added in their reply briefs that if this court does not accept the contention in their original briefs as to why EPA impermissibly relied on the 8-hour standard, then we should hold that *American Trucking* means that EPA cannot rely on the 8-hour standard because it was promulgated in violation of the non-delegation doctrine.

Regardless, EPA moved to stay consideration of the issues involving the 8-hour standard because the agency has stayed the 8-hour findings contained in the challenged SIP call. We granted the motion. Because EPA's stay removes the 8-hour findings as a basis for the SIP call, we will resolve only the issues involving the 1-hour standard.

I. *General Claims*

A. Transport Commission

States have the primary responsibility to attain and maintain NAAQS within their borders. *See* CAA § 107(a), 42 U.S.C. § 7407(a). When EPA concludes that an "implementation plan for any area is substantially inadequate to attain or maintain the relevant [NAAQS], to mitigate adequately the interstate pollutant transport described in section [176A] or [184], or to otherwise comply with any requirement of this chapter," the CAA requires EPA to order a state to revise and correct its SIP "as necessary" ("SIP call"). CAA § 110(k)(5), 42 U.S.C. § 7410(k)(5). One such "requirement of this chapter," is the "good neighbor provision" of section 110(a)(2)(D). As amended, section 110(a)(2)(D) requires that a SIP "contain adequate provisions"

> (i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . *contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard* . . . [and]
>
> (ii) insuring compliance with the applicable requirements of sections [126] and [115] . . . (relating to interstate and international pollution abatement).

42 U.S.C. § 7410(a)(2)(D) (emphasis added). Section 126(b) enables an individual state or a political subdivision of a state to petition EPA to make a "finding that any major source or group of stationary sources emits or would emit any air pollutant in violation of the prohibition of [§ 110(a)(2)(D)(ii)]." 42 U.S.C. § 7426(b). EPA may make or deny such a finding. *See id.* Section 115 pertains to petitions made by foreign countries. *See* 42 U.S.C. § 7415.

Title I, the subchapter referenced in section 110(a)(2)(D), also includes sections 176A and 184, the provisions referenced in section 110(k)(5). In 1990, Congress added a provision to section 176A stating that EPA "may" establish an interstate air pollution transport region whenever EPA "has reason to believe that the interstate transport of air pollutants from one or more States contributes significantly to a violation of a national ambient air quality standard in one or more other States." 42 U.S.C. § 7506a(a). The section also provides that whenever EPA "establishes a transport region . . . [EPA] shall establish a transport commission." 42 U.S.C. § 7506a(b)(1). Among other things, a section 176A commission is to assess the interstate transport situation in the relevant transport region, assess interstate pollution mitigation strategies, and recommend to EPA measures necessary "to ensure that the plans for the relevant States meet the requirements of [section 110(a)(2)(D)]." 42 U.S.C.

§ 7506a(b)(2). In addition, section 176A permits a transport commission to request that EPA "issue a finding under [section 110(k)(5)] . . . that the implementation plan for one or more of the States in the transport region is substantially inadequate to meet [section 110(a)(2)(D) requirements]." 42 U.S.C. § 7506a(c). After public comment, EPA has the authority to approve, approve in part, or disapprove such a request. *See id.*

In part, section 184, an ozone-specific provision, establishes an ozone transport region in the northeast ("NOTR") and sets the deadline for convening the transport commission required as a result of NOTR's establishment. *See* 42 U.S.C. § 7511c(a). The section also requires that "[i]n accordance with [section 110] . . . each State included [or subsequently included] within a transport region established for ozone shall submit a State implementation plan or revision" regarding vehicle inspection programs and volatile organic compounds control technology. 42 U.S.C. § 7511c(b). In addition, section 184 contains provisions giving states within an established transport region the opportunity to use their section 176A-established transport commission to help develop additional ozone control measures. *See* 42 U.S.C. § 7511c(c).

Efforts to control states' upwind contributions to ozone pollution continued to fall short during the early 1990s. In 1995, upon the recommendation of the Environmental Council of the States, thirty-seven states and representatives from EPA, industry, and environmental groups formed a national work-group called the Ozone Transport Assessment Group ("OTAG") to study and devise solutions to the interstate ozone transport problem. *See* 62 Fed. Reg. 60,318, at 60,319; EPA, Ozone Transport Assessment Group Executive Report, EPA Document No. A 95-56, Doc. No. II-G-05 ("Executive Report") at ii. More specifically, OTAG's purpose was to "identify and recommend a strategy to reduce

transported ozone and its precursors, which, in combination with other measures, will enable attainment and maintenance of the ozone standard in the OTAG region." Executive Report at ii. OTAG concluded that upwind states needed to reduce NO_x emissions in order to address the transport problem. However, the OTAG members could not agree on specific control measure recommendations. *See* 62 Fed. Reg. at 60,320. In response to OTAG's efforts, EPA engaged in further analysis and devised the SIP call challenged here.

Industry/Labor petitioners argue that the CAA required EPA to convene a transport commission pursuant to sections 176A/184 prior to issuing the challenged SIP call. EPA concedes that OTAG was not a statutorily-mandated 176A/184 transport commission as defined in the CAA. If a transport commission is required, EPA would be bound by statute to follow certain procedures in establishing and executing its commission obligation. However, we hold that the CAA does not require EPA to establish such a commission.

Industry/Labor petitioners contend that the reference to the transport commission provisions in section 110(k)(5) and the mandate of section 110(a)(2)(D) that SIP requirements be consistent with Title I provisions obligated EPA, prior to issuing the SIP call, to create a transport commission guided by the terms in sections 176A and 184 of the statute. Industry/Labor petitioners also note that sections 176A and 184 reference both sections 110(a)(2)(D) and 110(k)(5). *See* 42 U.S.C. §§ 7506a(b)(2), (c), 7511c(c)(5). From this hodgepodge of largely unrelated cross-references, Industry/Labor petitioners argue that EPA can only issue a section 110(k)(5) SIP call to enforce section 110(a)(2)(D)'s requirement after forming a 176A/184 transport commission. We disagree.

As a threshold matter, subsections 176A(a) and (b)(1) make clear that EPA must establish a transport commission *if* the agency exercises its discretion to create a transport region pursuant to section 176A(a). *See* 42 U.S.C. §§ 7506a(a),

(b)(1). However, EPA can address interstate transport apart from convening a 176A/184 transport commission as subsection (a) provides that EPA "may" establish a transport region and subsection (b)(1) only requires a transport commission upon the establishment of a transport region because "[w]henever the Administrator establishes a transport region under subsection (a) . . . , the Administrator shall establish a transport commission." Moreover, the relevant section 184 requirements apply to states within established *transport regions*. *See* 42 U.S.C. § 7511c(a)-(c). Thus, Industry/Labor petitioners cannot reason around the determinative statutory language contained in section 176A. Statutory construction is not an exercise in picking apart a complex statute and piecing the parts back together in a manner to effect a particular end. Ideally, a statute's directive concerning a certain issue will be plain and clear. Just so here.

B. State-Specific Analysis

Section 110(a)(2)(D)(I)(i) requires that the relevant offending emissions be "emissions activity within the State." Several petitioners charge that EPA did not sufficiently analyze each particular state in determining which states contributed unduly to ozone downwind.

In issuing its Notice of Proposed Rulemaking ("NPRM"), EPA relied on data collected from OTAG. The data were multi-state and regional in nature and were framed as a model of how ozone was transported downwind from 12 different regions that covered the eastern half of the United States. *See* Final Rule, 63 Fed. Reg. at 57,382. The OTAG regions do not track state boundaries, so several states are split between regions. EPA also relied upon the NO_x emissions of the individual states. *See id.* at 57,383-84. A potential shortcoming of the NPRM's approach was that it was too multi-state in nature. EPA knew how much NO_x each state was emitting, but a state's emissions as a share of total emissions do not necessarily correspond proportionately to its share in

the creation of ozone in downwind states. OTAG's multi-state modeling of such downwind transportation painted with a rather broad brush.

We need not pass judgment on whether the evidence and approach of the NPRM would have supported the final rule. After receiving comments regarding the insufficiently state-specific analysis of the NPRM, EPA performed state-specific modeling. *Id.* at 57,384. According to EPA, this confirmed the results of the regional modeling. *Id.*

The two types of state-specific modeling go by the names UAM-V and CAMx. In the UAM-V approach, the researchers model an affected downwind area to establish a base case, and then "zero-out" a particular source state. Thus with UAM-V it can be estimated what ozone concentrations would be like if a particular state contributed no ozone or ozone precursors. The CAMx modeling, on the other hand, is a source apportionment analysis which tracks modeled ozone from its precursors (NO_x and volatile organic compounds (VOCs)) through the formation of ozone and subsequent migration. Whereas UAM-V tells modelers how much ozone is missing when one state is zeroed out, CAMx models an ozone concentration and provides apportionment, i.e., who sent what. An advantage of the CAMx model used by EPA was that, unlike the UAM-V modeling, with CAMx EPA could isolate man-made emissions, or ozone creation based on reactions between man-made and biogenic emissions. UAM-V modeling was less discriminating.

Petitioners really do nothing more than quibble with the state-specific modeling. For example, Industry/Labor petitioners argue that zero-out modeling is inappropriate because it models an impossible scenario—the elimination of all man-made NO_x emissions; but they do not suggest how much this characteristic is likely to distort the results. State petitioners charge that sometimes the results of the two models were inconsistent, with, for example, the CAMx showing a larger

migration of ozone from a state than the UAM-V showed for all man-made NO_x in that state. EPA itself noted this infrequent inconsistency. *See id.* at 57,385. Neither criticism affords ground for non-expert judges to find a material likelihood of serious error. *See Appalachian Power Co. v. EPA*, 135 F.3d 791, 802 (D.C. Cir. 1998).

Petitioners complain that EPA did not provide the data sooner. EPA made the new modeling available on the Internet six weeks prior to the final rule, published its availability in the Federal Register a month before the final rule, and during that time received and responded to questions and comments regarding the modeling. Other than what we have already mentioned, petitioners have evidently not been able to identify further flaws in the modeling used, and thus have failed to show any prejudice from EPA's timetable. *Personal Watercraft Indus. Ass'n v. Department of Commerce*, 48 F.3d 540, 544 (D.C. Cir. 1995).

C. Determining "Significant" Contribution

Section 110(a)(2)(D)(i)(I) applies only to states that "contribute significantly" to nonattainment in a downwind state. Petitioners make essentially four arguments challenging EPA's determination of "significance": (1) EPA acted contrary to precedent; (2) EPA considered forbidden factors, namely, costs of reduction; (3) EPA irrationally imposed uniform NO_x controls on the states; (4) EPA's determination was so devoid of intelligible principles as to violate the nondelegation doctrine.

1. Past Precedent

Before the 1990 amendments to the Clean Air Act, § 110(a)(2)(E)(I) directed the EPA to insist on SIP provisions adequate to prevent sources within a state from emitting air pollution that would "*prevent attainment* or maintenance [of primary or secondary standards] by any other State." 42

U.S.C. § 7410(a)(2)(E) (1982) (emphasis added). In a number of decisions EPA found, with approval of the courts, that various emissions of a particular state, having a proportionate impact on some downwind state greater than the impacts involved here, did *not* meet that standard. *See New York v. EPA*, 852 F.2d 574 (D.C. Cir. 1988); *Air Pollution Control Dist. of Jefferson County v. EPA*, 739 F.2d 1071 (6th Cir. 1984); *New York v. EPA*, 716 F.2d 440 (7th Cir. 1983); *New York v. EPA*, 710 F.2d 1200 (6th Cir. 1983); *Connecticut v. EPA*, 696 F.2d 147 (2d Cir. 1982). According to the states, these decisions, and what they claim to be Congress's implicit endorsement in the 1990 amendments, bar EPA from regarding the ozone emissions here as "significant" within the meaning of § 110(a)(2)(D)(i)(I). Thus the states would equate the old standard—"prevent attainment"—with the new standard: "contribute significantly to nonattainment."

Nothing in the text of the new section or any other provision of the statute spells out a criterion for classifying "emissions activity" as "significant." Nor did EPA, under the then-existing provision, bind itself to any criterion. Further, given EPA's finding as to the cumulative effects of the pollutants that generate ozone, EPA might well be able to distinguish this case from the sulfur dioxide cases that the states have cited. *See* 63 Fed. Reg. at 57,359 ("The chemical reactions that create ozone take place while the pollutants are being blown through the air by the wind, which means that ozone can be more severe many miles away from the source of emissions than it is at the source."). But the states point to nothing suggesting any prior adoption by EPA of any binding concept of how much was too much, so the claim falls short at the threshold.

2. Consideration of costs

Petitioners claim § 110(a)(2)(D)(i)(I) does not permit EPA to take into consideration the cost of reducing ozone. The full

section provides that SIPs must contain provisions adequately prohibiting

> any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . *contribute significantly* to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard.

42 U.S.C. § 7410(a)(2)(D)(i)(I) (emphasis added).

Before reviewing the petitioners' attacks we must first describe how EPA went about the business at hand. It first determined that 23 jurisdictions are "significant" contributors to downwind nonattainment. 63 Fed. Reg. 57,398. In making this listing EPA drew lines based on the magnitude, frequency, and relative amount of each state's ozone contribution to a nonattainment area. For example, in one calculation it looked at the number of NO_x parts per billion ("ppb") that a candidate state's emissions made to exceedances in specific downwind locations (examined as a proportion of those exceedances). Indiana was found to contribute at least 2 ppb to 4% of the 1-hour ozone exceedances in New York City, and was deemed a "significant contributor" to nonattainment there. On the other hand, Alabama, Georgia, Massachusetts, Missouri, South Carolina, Tennessee, and Wisconsin were not deemed "significant contributors" to New York City nonattainment because none of these states ever contributed more than 2 ppb to a 1-hour exceedance in that area. Although EPA looked at other measures, e.g., the percentage contribution of a state's emissions to total concentrations in a specified area, no one quarrels either with its use of multiple measures, or with the way it drew the line at this stage.

Although the dividing line was a very low threshold of contribution, in the end EPA's rule called for termination of

only a subset of each state's contribution. EPA decided that the 23 "significant contributors" need only reduce their ozone by the amount achievable with "highly cost-effective controls." 63 Fed. Reg. at 57,403. Thus, once a state had been nominally marked a "significant contributor," it could satisfy the statute, i.e., reduce its contribution to a point where it would not be "significant" within the meaning of § 110(a)(2)(D)(i)(I), by cutting back the amount that could be eliminated with "highly cost-effective controls." EPA's design was to have a lot of states make what it considered modest NO_x reductions, uniformly limited to ones that could be achieved (in EPA's estimate) for less than $2000 a ton. As a result, naturally, the ultimate line of "significance," whether measured in volume of NO_x emitted or arriving in nonattainment areas, would vary from state to state depending on variations in cutback costs.

State and Industry/Labor petitioners argue that this approach runs afoul of § 110(a)(2)(D), which they read as prohibiting any consideration of costs or cost-effectiveness in determining what contributions are "significant." So far as appears, none of the states proposes that EPA, if reversed, must require complete extirpation of their NO_x emissions. Rather, the gamble—at least of the small contributors—is evidently that if EPA were barred from considering costs, it would never have included such states. Because the attacks from the states and Industry/Labor are somewhat dissimilar and have shifted back-and-forth between the opening briefs, reply briefs, and oral argument, a summary of the relevant differences and vacillations is in order. We note that no party makes any claim that EPA was either confined to adopting rules whose benefits exceeded their costs, or permitted to use

that criterion in selecting its final rule.[2] Nor has it been argued that the term "significant" required consideration of costs.

State petitioners initially argued that it was "arbitrary and unlawful" for EPA to make cost effectiveness a "controlling factor" or "linchpin" in the determination of significant contribution under § 110(a)(2)(D). Thus EPA's error, as the states would have it, was in considering costs too much: "Petitioning States do not claim that there is no role for cost considerations; Petitioning States simply stress that EPA must establish a definition of significance that is dominated by air quality factors, as air quality is the sole factor mentioned in the statute." Reply Br. of Petitioning States at 4. In support of this position, State petitioners cited our en banc decision in *Natural Resources Defense Council v. EPA,* 824 F.2d 1146, 1163 (D.C. Cir. 1987) (en banc), where we held that a statutory mandate for EPA to set a standard with an "ample margin of safety to protect the public health" did not preclude the consideration of costs and technological feasibility, but that these concerns could not be the "primary consideration."

At oral argument, counsel for the states abandoned this position and decided that the statute flatly prohibits EPA from

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[2] Indeed, accepting EPA's belief that ozone cannot be held responsible for mortality effects, *see* Proposed Rule, 62 Fed. Reg. at 60,321 (not listing death as a health effect of groundlevel ozone); compare Final Rule, 63 Fed. Reg. at 57,359 (listing "[p]ossible long-term damage to the lungs or even premature death" as health effects), and mainly using EPA data, some outside observers have calculated the benefit per ton of NO_x reduction as ranging from a high of $750 per ton (for mobile sources in certain areas) to a low of negative $6 per ton (for other mobile sources). Alan Krupnick & Virginia McConnell, "Cost-Effective NO_x control in the Eastern U.S." (Draft July 1999) (Table 4); *see* Krupnick & Anderson, *A Dilemma Downwind,* 137 Resources for the Future 5, 7 (1999) ("If one assumes that ozone does not cause deaths, the EPA's proposal is much too restrictive, incurring costs far out of proportion with the benefits it would bring.").

considering costs at all. Transcript of Oral Argument at 14-17. Indeed, counsel eventually went so far as to claim that if faced with two states, one of which could eliminate all relevant emissions at a trivial cost, while the other could eliminate none at a cost of less than $5000 a ton, EPA must mandate the same cutback for each. *Id.* at 16-17.

We should note here that the consequence of this position is not so extreme as it sounds. EPA's rule allows ton-for-ton emissions trading between firms based on allowances determined by each state. *See* 63 Fed. Reg. 57,456. Obviously the firms with the highest emission reduction costs will, if permitted by their states, buy up pollution allowances from firms that are granted allowances because they have over-controlled for NO_x—firms, obviously, with low reduction costs. If transaction costs were zero, the only effect of the initial assignment of cutbacks would be distributional: firms would make only the cheaper cutbacks, but firms with high emission-reduction costs would buy allowances from those with low costs and thereby transfer wealth to them. *See* Ronald H. Coase, *The Problem of Social Cost,* 3 J. L. & Econ. 1 (1960). But transaction costs notoriously are not zero;[3] so the likely effect of the proposed statutory interpretation would be that any aggregate cutback would be achieved at considerably higher cost than under EPA's reading of § 110(a)(2)(D)(i)(I), with absolutely no offsetting environmental benefit to the public. Of course we are able to assume the existence of EPA's allowance trading program only because no one has challenged its adoption. As the program seems to have no rationale other than cost reduction, *see* 63 Fed. Reg. at 57,457, it would presumably be invalid under petitioners' proposed reading of § 110(a)(2)(D)(i)(I), in

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[3] A glance at EPA's regulations for allowance trading will convince any doubter that transaction costs can safely be expected to be substantial. *See* 63 Fed. Reg. at 57,457-75.

which case the states' position really is as extreme as it sounds.

Returning to the positions of the parties, we find Industry/Labor engaging in a migration comparable to that of the states, though in the opposite direction. In its opening and reply brief Industry/Labor argued that "§ 110(a)(2)(D) requires consideration of only air quality impacts in determining the significance of any contribution." However, at oral argument Industry/Labor offered a construction of the statute that seemed to restore to EPA via § 110(k)(5) what it would take away via § 110(a)(2)(D). Industry/Labor claimed that costs could be considered when EPA determines if a SIP is "adequate" under § 110(k)(5). Transcript of Oral Argument at 28. The states actually offered this same reading of § 110(k)(5) in their reply brief (back when they thought EPA could consider costs) but appeared to abandon it at oral argument in favor of a flat prohibition on EPA cost considerations. The argument that costs may be considered under § 110(k)(5) seems to concede that the structure of the statutory scheme manifests no intention to bar the consideration of costs.

And so we are indeed presented with the question whether § 110(a)(2)(D) bars consideration of costs, but it is presented to us with the caveat that costs can be considered later on in the process, and accompanied by a false start by the states, who initially said that EPA could consider costs, just not too much. Against this backdrop, it would be at the very least ironic for us to say there is "clear congressional intent to preclude consideration of cost" under § 110(a)(2)(D). *See Natural Resources Defense Council v. EPA*, 824 F.2d 1146, 1163 (D.C. Cir. 1987) (en banc).

For convenience we repeat the statutory language. Section 110(a)(2)(D)(i)(I) provides that SIPs must contain provisions adequately prohibiting

> any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . *contribute significantly* to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard.

42 U.S.C. § 7410(a)(2)(D)(i)(I) (emphasis added). By its terms the statute is focused on "amounts" of "emissions activity" that "contribute significantly to nonattainment." The fundamental dispute is over the clarity of the phrase "contribute significantly." Must EPA simply pick some fiat "amount" of contribution, based exclusively on health concerns, such that any excess would put a state in the forbidden zone of "significance"?[4] Or was it permissible for EPA to consider differences in cutback costs, so that, after reduction of all that could be cost-effectively eliminated, any remaining "contribution" would not be considered "significant"? In deciding on the permissible ceiling, EPA used "significant" in the second way.

The term "significant" does not in itself convey a thought that significance should be measured in only one dimension—here, in the petitioners' view, health alone. Indeed, "significant" is a very odd choice to express unidimensionality; consider the phrase "significant other." In some contexts, "significant" begs a consideration of costs. In finding a threshold requirement of "significant risk" in § 3(8) of the Occupational Health and Safety Act, 29 U.S.C. § 652(8), a plurality of the Supreme Court understood a "significant" risk as something more than a "mathematical straitjacket," and held that "[s]ome risks are plainly acceptable and others are plainly unacceptable." *Industrial Union Dept., AFL-CIO v. American Petroleum Institute*

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[4] We deal below with a related question: Did EPA act irrationally in setting the level of significance without regard for varying levels of downwind impact? *See* part I.C.3 below.

("*Benzene*"), 448 U.S. 607, 655 (1980) (plurality opinion). The plurality withheld judgment on whether the Act required a "reasonable correlation between costs and benefits," *id.* at 615, but the upshot of inserting the adjective "significant" was a consideration of which risks are worth the cost of elimination. OSHA has since interpreted § 3(8) and regulation of "significant risk" to require "cost-effective protective measures" and set standards with an eye toward "the costs of safety standards [being] reasonably related to their benefits." *See International Union v. OSHA* (*Lockout/Tagout II*), 37 F.3d 665, 668-69 (D.C. Cir. 1994) (quoting OSHA's final rule). OSHA's reaction to the term "significant" seems to confirm what some commentators have asked rhetorically: "[C]an an agency sensibly decide whether a risk is 'significant' without also examining the cost of eliminating it?" Stephen G. Breyer, Richard B. Stewart, Cass R. Sunstein & Matthew L. Spitzer, ADMINISTRATIVE LAW AND REGULATORY POLICY 65 (4th ed. 1999).

Petitioners conspicuously fail to describe the intellectual process by which EPA would determine "significance" if it may consider only health. EPA has determined that ozone has *some* adverse health effects—however slight—at every level. *See* National Ambient Air Quality Standards for Ozone, 62 Fed. Reg. 38,856 (1997). Without consideration of cost it is hard to see why *any* ozone-creating emissions should not be regarded as fatally "significant" under § 110(a)(2)(D)(i)(I). Perhaps EPA might (under such a rule) let the upwind states off at the stringency level of the programs imposed on non-attainment areas, but petitioners do not explain how "significance" can exclude cost but admit equity.

Although the ambiguity of the word "significant" and the implications of a health-only reading are potentially fatal flaws in petitioners' theory (aside from their own inability to discern the "plain language" consistently), the most formidable obstacle is the settled law of this circuit. It is only where

there is "clear congressional intent to preclude consideration of cost" that we find agencies barred from considering costs. *NRDC*, 824 F.2d at 1163; *see also George E. Warren Corp. v. EPA*, 159 F.3d 616, 622-24 (D.C. Cir. 1998), *reh'g granted*, 164 F.3d 676 (D.C. Cir. 1999); *Grand Canyon Air Tour Coalition v. FAA*, 154 F.3d 455, 475 (D.C. Cir. 1998), *cert. denied*, 119 S. Ct. 2046 (1999); *NRDC v. EPA*, 937 F.2d 641, 643-46 (D.C. Cir. 1991); *cf. International Bhd. of Teamsters v. United States*, 735 F.2d 1525, 1528-29 (D.C. Cir. 1984) (construing mandate to adopt "reasonable requirements" for safety as allowing consideration of cost).

In *NRDC* we considered § 112 of the Clean Air Act, requiring EPA to set an air quality standard for hazardous pollutants with an "ample margin of safety" to protect the public health. We held that this phrase did not preclude a consideration of costs. 824 F.2d at 1155, 1163. In *George E. Warren Corp.* we acknowledged that the statutory scheme for the reformulated gasoline program had the "overall goal" of improving air quality and "reducing air pollution." 159 F.3d at 622. But because there was nothing "in the text or structure of the statute to indicate that the Congress intended to preclude the EPA from considering the effects a proposed rule might have upon the price and supply of gasoline," *id.* at 623, we found no such preclusion even though the provision at issue contained no allusion whatever to such effects. Similarly, in *Grand Canyon Air Tour* the statute required the FAA to devise a plan for "substantial restoration of the natural quiet" in the Grand Canyon area, but we found nothing impermissible in the FAA's consideration of costs to the air tourism industry in deciding how "substantial" that restoration must be. 154 F.3d at 475. In *NRDC v. EPA* we considered whether EPA permissibly used cost-benefit analysis in refusing to classify a particular polluting source as "major." The petitioners argued that cost considerations were precluded, and we stated: "[W]hile the statutory language and legislative history do not bar petitioners' construction, they

provide little support and no necessity for it." 937 F.2d at 645. We affirmed EPA's use of cost-benefit analysis.

These cases are unexceptional in their general view that preclusion of cost consideration requires a rather express congressional direction. *See* Edward W. Warren & Gary E. Marchant, *"More Good Than Harm": A First Principle for Environmental Agencies and Reviewing Courts*, 20 Ecology L.Q. 379, 421 (1993) ("The need to compare benefits and costs has long played a role in judicial review of agency actions regulating health and safety risks."); Cass R. Sunstein, *Interpreting Statutes in the Regulatory State*, 103 Harv. L. Rev. 405, 487 (1989) (suggesting an "interpretive principle" drawn from case law, including *NRDC v. EPA*, 824 F.2d 1146, that reviewing courts will read statutes as authorizing regulations with benefits at least "roughly commensurate with their costs, unless there is a clear legislative statement to the contrary"). Three of the cases, moreover—the two *NRDC* cases and *Grand Canyon*—, involve statutory language with just the same structure as here. A mandate directed to some environmental benefit is phrased in general quantitative terms ("ample margin of safety," "substantial restoration," and "major"), and contains not a word alluding to non-health trade-offs; in each case we found that in making its judgments of degree the agency was free to consider the costs of demanding higher levels of environmental benefit. So too here.

Petitioners point to no evidence of the requisite "clear congressional intent to preclude consideration of cost." *NRDC*, 824 F.2d at 1163. The text, we have already seen, works no such preclusion. As for the statutory structure, petitioners willingly concede that costs may be considered under § 110(k)(5) in determining the adequacy of a state plan. Why would a Congress intent on precluding cost considerations allow such an escape hatch? The petitioners cite no

legislative history suggesting that cost considerations should be barred.

In sum, there is nothing in the text, structure, or history of § 110(a)(2)(D) that bars EPA from considering cost in its application.

3. Uniform Controls

As we have seen, EPA required that all of the covered jurisdictions, regardless of amount of contribution, reduce their NO_x by an amount achievable with "highly cost-effective controls." Petitioners claim that EPA's uniform control strategy is irrational in two distinct ways. First, they observe that where two states differ considerably in the amount of their respective NO_x contributions to downwind nonattainment, under the EPA rule even the small contributors must make reductions equivalent to those achievable by highly cost-effective measures. This of course flows ineluctably from the EPA's decision to draw the "significant contribution" line on a basis of cost differentials. Our upholding of that decision logically entails upholding this consequence.

The second objection is that because of distance and the vagaries of pollutant migration and ozone formation, a molecule of NO_x emitted in Indiana (for example) may cause far less adverse health impact than a molecule emitted in eastern Pennsylvania. EPA acknowledges that "[s]ources that are closer to the nonattainment area tend to have much larger effects on air quality than sources that are far away." 63 Fed. Reg. at 25,919. While EPA's cost-effectiveness standard and emissions trading seem to mean that EPA will secure the resulting aggregate NO_x reduction at roughly the lowest possible cost, they do not necessarily mean that it will have secured the resulting aggregate health benefits at the lowest cost. Petitioners ask, in effect, why EPA did not, by one means or another (e.g., in the emissions trading system),

make reductions from sources near the nonattainment areas (or otherwise more damaging, molecule for molecule) more valuable than ones from distant sources?

EPA considered this approach, modeling the efficacy of regional alternatives compared to its uniform strategy. *See* Final Rule, 63 Fed. Reg. at 57,423. Its researchers found that non-uniform regional approaches by comparison did not "provide either a significant improvement in air quality or a substantial reduction in cost." *Id.* The complaining states offer no material critique of EPA's methodology in reaching this answer, which in fact some independent investigators have confirmed. *See* Krupnick & Anderson, *A Dilemma Downwind,* 137 Resources for the Future 5, 6 (1999) ("[Even with] spatial differences, when viewed across the entire study region, RFF concluded that there was no clear benefit to an exposure-based trading system, compared with simple ton-for-ton NO_x trading. Public health benefits would be approximately the same, and there would be no significant difference in costs to the utilities."). We have no basis to upset EPA's judgment.

4. Nondelegation

In their opening brief and more prominently in their reply brief, state petitioners argue that EPA has not determined "significant contribution" based on any intelligible principles. Petitioners rely heavily on our decision in *American Trucking Ass'ns, Inc. v. EPA,* 175 F.3d 1027, *reh'g granted in part, den'd in part* 195 F.3d 4 (D.C. Cir. 1999), essentially arguing that nothing about EPA's analysis explains how much of a NO_x contribution was too much (i.e., worthy of a SIP call).

We must recognize here that EPA's cost-effectiveness criterion is a radically incomplete line-drawing device. EPA has effectively ruled that each affected state must get down to the NO_x emissions levels that would prevail if it removed all NO_x emissions costing $2000/ton or less to remove. This

satisfies its "cost-effectiveness" criterion because (if states also seek to minimize costs subject to the EPA's constraint) only these relatively low-cost tons will be removed. But while EPA indicates that it rested the $2000/ton figure on "$NO_x$ emissions controls that are available and of comparable cost to other recently undertaken or planned NO_x measures," Final Rule, 63 Fed. Reg. at 57,400, it neither rests that benchmark on anything in the language or function of § 110(a)(2)(D)(i)(I), nor otherwise explains why the resulting cut-off point represents the right degree of "cost-effectiveness" (i.e., why "highly cost-effective" should be at that "height"). Accordingly, we must read EPA as having understood that its selection of the cut-off point was essentially unbounded.

But petitioners have ignored a limit to the nondelegation doctrine that we relied on in *American Trucking* and even more emphatically in its immediate precursor, *International Union, UAW v. OSHA ("Lockout/Tagout I")*, 938 F.2d 1310 (D.C. Cir. 1991). There we noted that the scope of the agency's "claimed power to roam" was "immense, encompassing all American enterprise." *Id.* at 1317. Quoting verbatim from *Synar v. United States*, 626 F. Supp. 1374, 1383 (D.D.C. 1986) (three-judge panel), *aff'd sub nom. Bowsher v. Synar*, 478 U.S. 714 (1986), we said, "When the scope increases to immense proportions, as in [*A.L.A. Schecter Poultry Corp. v. United States*, 295 U.S. 495 (1935)], the standards must be correspondingly more precise." *Lockout/Tagout I*, 938 F.2d at 1317. We noted that a mass of cases in courts had upheld delegations of effectively standardless discretion, and distinguished them precisely on the ground of the narrower scope within which the agencies could deploy that discretion. *Id. American Trucking*, perhaps too succinctly for petitioners to notice, incorporated the *Lockout/Tagout I* discussion of the point. *American Trucking*, 175 F.3d at 1037.

Nominally, of course, § 110(a)(2)(D)(i)(I) encompasses "all American enterprise." But as a practical matter EPA must make a number of threshold determinations that in practice appear to have confined the statute to a modest role. Before assessing "significance," EPA must find (1) emissions activity within a state; (2) show with modeling or other evidence that such emissions are migrating into other states; and (3) show that the emissions are contributing to nonattainment. We do not mean to minimize the scope of EPA's action in the present case. Nearly half of the nation is affected and control costs will be substantial. And it may ultimately prove that the dam constituted by these criteria will burst, subjecting "all American industry" to EPA's § 110(a)(2)(D)(i)(I) discretion. But in practice, so far, these threshold criteria appear to have so limited EPA's activity under the section as to make the rule in question here the sole example of § 110(a)(2)(D)(i)(I) rulemaking. Accordingly, the grounds on which we remanded in *Lockout-Tagout I* and *American Trucking* for confining agency constructions are absent here.

II. *Inclusion of Specific States*

A. Wisconsin

Wisconsin industry petitioners separately challenge Wisconsin's inclusion in the SIP call. The Wisconsin petitioners argue that the emissions from the state do not contribute significantly to nonattainment in any other state. Section 110(a)(2)(D)(i)(I) requires that a state "contribute significantly to nonattainment in . . . *any other State*" in order to be included in the challenged SIP call. 42 U.S.C. § 7410(a)(2)(D)(i)(I) (emphasis added). As explained below, EPA erroneously included Wisconsin in the SIP call because EPA failed to explain how Wisconsin contributes to nonattainment *in any other state*.

EPA contends that Wisconsin contributes significantly to other states' nonattainment because the state significantly contributes ozone over the Lake Michigan region. Despite EPA's Lake Michigan concerns, the agency does not show on the record that Wisconsin's ozone contribution affects any onshore state nonattainment. At oral argument, counsel for EPA conceded that "[t]he part that's missing [from the record] is a thorough explanation to support our modeling data and things of that nature between the Lake Michigan receptor area and the onshore states." Oral Arg. Tr. at 107. When asked for more, counsel could only respond that "the best evidence . . . is simply the narrative statements in the [final rule's] preambles . . . . There's nothing else there." *Id.* Because EPA conceded at oral argument that it has no record evidence directly linking Wisconsin's ozone contribution over Lake Michigan to nonattainment in any *state* and because EPA must "demonstrate[ ] a reasonable connection between the facts on the record and its decision" made pursuant to its statutory authority, *Ethyl Corp. v. EPA*, 51 F.3d 1053, 1064 (D.C. Cir. 1995), we hold that EPA acted unlawfully by including Wisconsin in a SIP call limited by statute to states contributing significantly to nonattainment in any other state and therefore set aside Wisconsin's inclusion in the SIP call. *See* 5 U.S.C. § 706(2)(A), (C) (1994) ("The reviewing court shall . . . hold unlawful and set aside agency action . . . found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not accordance with law [or] in excess of statutory jurisdiction, authority, or limitations, or short of statutory right.").

B. Missouri and Georgia

Missouri and Georgia were on the geographical perimeter of EPA's SIP call. No state west of Missouri was included, nor were the two states directly to its north (Iowa and Minnesota) and south (Arkansas). Georgia was a bit more in the thick of things, surrounded on three sides by included

states—Alabama, Tennessee, North Carolina, and South Carolina; but the southern portion of Georgia borders the excluded state of Florida. Industrial petitioners within Missouri and Georgia challenge EPA's decision to calculate NO_x budgets for these two states based on the entirety of NO_x emissions in each state. Petitioners argue that there is record support only for the proposition that emissions from, roughly speaking, the eastern half of Missouri and the northern two-thirds of Georgia "contribute" to downwind concentrations; accordingly, they say, the NO_x budgets for Missouri and Georgia should be based solely on those emissions.

We must here explain how EPA calculated NO_x budgets. It projected the total amount of NO_x emissions that sources in a state would emit in the year 2007, in light of expected growth and other controls required by the CAA. EPA then projected total NO_x emissions if "highly cost-effective controls" were implemented. The resulting calculation became the state's NO_x budget, with the difference between the base case and the controlled case being the "significant" contribution discussed above. Obviously a state's NO_x budget will vary depending on whether EPA considers all of the NO_x emissions in the state, or instead considers only emissions located in a smaller portion of the state (assuming emissions are dispersed throughout the state, which is the case here and without which the issue would be immaterial, as nonexistent emissions need not be controlled). For Missouri and Georgia, as for all other included states, NO_x budgets were calculated using all NO_x emissions in the state.

The challenge basically stems from the character of OTAG's modeling, and its resulting recommendations to EPA. OTAG's ozone transport model used grids drawn across most of the eastern half of the United States. The first grid was the most precise, with grid cells of 12 kilometers squared (244 square kilometers)—the "fine grid." A second grid extended beyond the perimeter of the fine grid and had

cells of 36 kilometers squared resolution—the "coarse grid." For a variety of reasons to be discussed shortly, the fine grid did not track state boundaries, and Missouri and Georgia were among several states that were split between the fine and coarse grids. OTAG then ran modeling for both grids, but in the final analysis did not find emissions from the coarse grid worthy of special concern. OTAG's executive summary stated: "[T]he focus on ozone air quality impacts in the fine grid raised questions about the need for controls in the coarse grid. The recommendations adopted by the Policy Group recognize that the OTAG analyses demonstrated that transport impacts of the coarse grid areas on the fine grid are minimal and therefore, do not include the coarse grid areas for recommended control measures other than those that would be applied nationally." Petitioners argue that EPA should base NO_x budgets for Missouri and Georgia only on portions of these states within the fine grid.

EPA offers three reasons for including the entire states of Missouri and Georgia:

> (1) The division of individual States by OTAG was based, in part, on computational limitations in OTAG's modeling analyses; (2) the additional upwind emissions from full, as opposed to partial, States would provide additional benefit to downwind nonattainment areas; and, (3) State-wide emissions budgets create fewer administrative difficulties than a partial-State budget.

Final Rule, 63 Fed. Reg. at 57,424. We review deferentially, searching for the reasonableness of EPA's action, *Appalachian Power,* 135 F.3d at 802, whether that be EPA's interpretation of the statute, *see Chevron,* 467 U.S. at 842-43, or EPA's explanation for its policy choice, *see Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co.,* 463 U.S. 29, 43 (1983). The two inquiries can and do overlap. *See Animal Legal Defense Fund v. Glickman,* No. 97-5009, slip op. at 9 (D.C. Cir. Feb. 1, 2000).

On its face the statute neither mandates nor prohibits an all-or-nothing statewide perspective. It directs EPA to make sure that SIPs (which of course are *state* plans) adequately prohibit "any source or other type of emissions activity within the State from emitting" in excess of the substantive limit. The critical issue is whether the targeted "source" or "emissions activity" "contribute[s] significantly to nonattainment" in another state.

EPA's first argument is that the fine grid split Missouri and Georgia in part because of computer limitations—every extension of the fine grid modeling was costly in terms of both computer memory and data collection. Document No. II-A-14, Draft OTAG Final Report Regional and Urban Scale Modeling—Chapter 2, 2-7 (undated). But the OTAG modelers allocated their scarce resources purposefully, by reference to known air quality data, explicitly taking into consideration the "locale of various problem areas (as represented by urban-area modeling domains), and emissions density." *Id.* Thus it was no mere techno-fortuity that the fine grid included enough of Missouri to include the city of St. Louis and enough of Georgia to include Atlanta: both cities are designated nonattainment areas for ozone under the 1-hour NAAQS. *See* Final Rule, 63 Fed. Reg. at 57,359. Moreover, the fine grid portions of both states are the closest to other nonattainment areas, such as Chicago and Birmingham, and generally higher ozone density.

Of course the fine grid modeling of *parts* of Missouri and Georgia showed emissions in the aggregate meeting the EPA's threshold "contribution" criteria. Thus fine grid modeling of each in its entirety would presumably also have done so. But that is a simple arithmetic necessity (a state is necessarily composed of its parts) and provides no reason for EPA to ignore the very air quality factors that influenced the design of the modeling that did occur. OTAG itself clearly did not think those factors magically lost their force, for it

recommended against controlling the rump areas. And EPA itself acknowledged part of the reason this should be so when it observed, "Sources that are closer to the nonattainment area tend to have much larger effects on air quality than sources that are far away." 63 Fed. Reg. at 25,919. Indeed, even if the line between areas for which there was evidence and ones for which there was none were explained solely by fortuity, EPA would still be required to act upon the evidence that *was* generated. *See Chemical Manufacturers Ass'n v. EPA*, 859 F.2d 977, 989 (D.C. Cir. 1988) (holding that EPA must consider "all the evidence—including the industry evidence").

This leads us to EPA defenses other than modeling design. The first is that "the larger the geographic area that is controlled, the greater the downwind benefits." Final Rule, 63 Fed. Reg. at 57,424. This reason can only stand if the emissions at issue contribute significantly to nonattainment in another state. OTAG concluded they did not. *Id.* EPA claims that its state-specific modeling, which supplemented OTAG's more regional modeling, supports including the coarse grid areas. *See id.* Yet EPA's explanation and technique make clear that emissions from the fine grid areas may have been the sole source of the finding. Indeed, EPA says as much: "[I]f emissions from part of a State contribute significantly to downwind nonattainment or maintenance problems, emissions from the entire State contribute significantly to downwind nonattainment or maintenance problems." *Id.* This of course is also true as a matter of logic (a state is the sum of its parts). But it is completely consistent with the rump portion being innocent of downwind effect, and thus is scarcely a *reason* for ruling that significant contributions from a border city should rope in the entire state.

Aware of this problem, EPA simply throws the burden of persuasion onto the states. "[T]here is no peculiar meteorological phenomenon that would indicate that emissions from

some portion of [each of the affected states] would not impact downwind nonattainment or maintenance problems." *Id.* In addition, "the atmosphere is constantly in motion and has no limitations at geo-political boundaries." *Id.* If this is "evidence" of contribution, it proves too much. If the simple proposition that the prevailing westerlies carry pollutants eastward were enough, EPA could, on the basis of a plant in Pennsylvania, use § 110(a)(2)(D)(i)(I) to control all NOx emissions east of the Rocky Mountains. While we uphold EPA's determination that a "significant" contribution is a cost-effectively controllable contribution, *EPA must first establish that there is a measurable contribution.* Interstate contributions cannot be assumed out of thin air.

In the end administrative convenience is EPA's only real defense for basing NOx budgets on the entirety of a state's emissions. There seem to be two species of this argument. First, EPA seems to claim that it is just easier to calculate a NO_x budget based on *all* the emissions in the state instead of only a portion of such emissions. EPA provides no explanation of why this is so, and it seems dubious. Within a state are counties, air quality control regions, and for some unfortunate states, nonattainment areas. EPA also has emissions data on specific sources, some of which may be susceptible of "highly cost-effective controls," and others of which may not be. *See, e.g.*, Emissions Data For Power Plants, <www.epa.gov/acidrain/emissions> (visited January 26, 2000). Without data from such state subdivisions and specific sources, EPA could never have performed modeling or even set a statewide budget. EPA has not explained how calculation of a budget for sources in only half of the state would be any more onerous than for all sources in the state. Unless it is relying on data that exist only for the state as a whole, calculation seems on its face easier for a half than for a whole.

EPA offers a second administrative problem. If the concern for not allowing § 110(a)(2)(D)(i)(I) to encompass unproven areas compels an insistence on proof of contribution from ever smaller geographic subdivisions, any area's specific contribution may appear insubstantial, even though collectively there are significant contributions. In other words, unlike bologna, which remains bologna no matter how thin you slice it, significant contribution may disappear if emissions activity is sliced too thinly.

While this argument was stressed on appeal, it is nowhere to be found in the proposed or final rule, except insofar as it may have lurked behind the vague invocation of "administrative difficulties." *See* Final Rule, 63 Fed. Reg. at 57,424; Proposed Rule, 62 Fed. Reg. at 60,342. As a result it is quite undeveloped. But it appears to be based on a distortion of the claims of Missouri and Georgia. They are not asserting a right to bologna tactics, to slice down the unit of measurement to a point of insignificance. All they are claiming is that where the data—calculated under EPA's supervision—inculpate part of a state and not another, EPA should honor the resulting findings.

Such a proposition would of course leave EPA free to select states as the unit of measurement. In turn, states (or the areas of states that believed themselves innocent of material contributions, or sources located therein), might respond by offering finer-grained computations. Such a process seems more like a healthy search for truth than the collapse into infinite regress that EPA claims to fear.

EPA also points to state flexibility: "Since each State has the flexibility to determine which sources to control in order to meet the budget, a State can structure its control strategy to require fewer reductions in certain portions of the State and greater controls in other areas." Final Rule, 63 Fed. Reg. at 57,424. This theory presents at least two difficulties. First, it overlooks the fact that state budgets not only encompass the

whole state but are calculated on the basis of hypothesized cutbacks from areas that have *not* been shown to have made significant contributions. Thus the "flexibility" comes at the cost of a burden that is heavier in the aggregate, where the added weight accomplishes *no* purpose relevant to § 110(a)(2)(D)(i)(I). Second, a state's use of flexibility to pursue a purely *in*-state set of tradeoffs between cost and benefit (and thus unrelated to the goals of §110(a)(2)(D)(i)(I)) may actually *diminish* the cutbacks in areas that are making a contribution to other states' nonattainment.

Thus nowhere has EPA reasonably explained why NO_x budgets based on every state source are the best stopping point with respect to states on the perimeter of the ozone problem.

Therefore we vacate EPA's final rule with respect to Missouri and Georgia and remand to the agency for reconsideration in light of this opinion.

C. South Carolina

Petitioner Santee Cooper challenges South Carolina's inclusion in the SIP call by alleging that the state's downwind ozone nonattainment impact is "minuscule" and therefore not significant. We will hold unlawful EPA's decision to include South Carolina in the SIP call if we find EPA's decision "arbitrary, capricious, an abuse of discretion, or otherwise not accordance with law." 5 U.S.C. § 706(2)(A). In order for EPA's decision to include South Carolina in the SIP call to survive review, the agency must "demonstrate[ ] a reasonable connection between the facts on the record and its decision," *Ethyl Corp.*, 51 F.3d at 1064. We conclude that the record supports EPA's decision to include the state as a significant contributor to downwind nonattainment. *See* Proposed Rule, 62 Fed. Reg. at 60,337-339. EPA considered the analyses submitted by the objecting petitioner but disagreed with the

petitioner's conclusions as drawn from the relevant information. Specifically, EPA conducted additional modeling and interpreted the data in context and found that South Carolina significantly contributed to ozone nonattainment. *See id.*; Final Rule, 63 Fed. Reg. at 57,394-396.

For example, under the 1-hour standard, the UAM-V zero-out modeling results indicated that South Carolina had a high maximum contribution (16 ppb) and a high frequency of contribution (at least 2 ppb to 15% of the exceedences and at least 10 ppb to 5% of the exceedences) to Atlanta. *See* OFFICE OF AIR AND RADIATION, U.S. ENVIRONMENTAL PROTECTION AGENCY, DOC. NO. VI-B-11, AIR QUALITY MODELING TECHNICAL SUPPORT DOCUMENT FOR THE NO_x SIP CALL C-5, H-2 (1998). The CAMx modeling results were comparable (25 ppb maximum contribution and a frequency of at least 2 ppb to 30% of the exceedences). *See id.* at C-5, G-6. Among the upwind states, only Alabama had a higher maximum contribution. *See id.* at Apps. G & H. Moreover, South Carolina's contribution to 1-hour nonattainment in Atlanta was no more "insignificant" than many of the other linkages that were found to be significant *(e.g.*, Indiana's contribution to New York City). *See id.* at C-13, H-16.

In contrast, the petitioner seeks to show that the data, when viewed in isolation, makes South Carolina's contribution appear insignificant. In the end, we reject the challenge made on behalf of South Carolina because the petitioner attacks, not so much the accuracy of EPA's data, but rather EPA's reasonable analysis and application of the data.

III. *Federalism and Regulatory Flexibility Act*

A. NO_x Budgets

Building on OTAG's work, EPA ordered the challenged SIP call under the authority of section 110(k)(5) in order to address significant contribution to 1-hour ozone nonattain-

ment as described under section 110(a)(2)(D).[5] In fashioning the SIP call, EPA focused on OTAG's determination that "[r]egional NO_x emissions reductions are effective in producing ozone benefits." Proposed Rule, 62 Fed. Reg. 60,318, at 60,320. EPA also took into consideration OTAG's conclusion that while NO_x controls are effective in addressing regional ozone problems, VOC controls are most effective locally and are most advantageous to urban nonattainment areas. *See id.* Because OTAG concluded that NO_x reductions provide the key to addressing regional ozone problems, EPA's SIP call addresses regional ozone nonattainment through NO_x emissions "budgets" established by the agency for each covered state. The budgets represent the amount of allowable NO_x emissions remaining after a covered state prohibits the NO_x amount contributing significantly to downwind nonattainment. *See* Final Rule, 63 Fed. Reg. 57,356, at 57,368. While EPA calculated the budgets using highly cost-effective emission controls, the agency allows the states to choose the control measures necessary to bring their emissions within the budget requirements. *See id.* at 57,377; *id.* at 57,400. Under EPA's budget plan, a state "may choose from a broader menu of cost-effective, reasonable alternatives" including alternatives that "may even be more advantageous in light of local concerns." *Id.* at 57,369-370. In fact, EPA has stated that the states have "full discretion in selecting the controls, so that [the states] may choose any set of controls that would assure achievement of the budget." *Id.* at 57,378. In addition, each state has the option of adopting an interstate trading program that allows it to purchase NO_x "allowances" from sources that have elected to over-control. *Id.* at 57,430. The SIP call also gives the states the option in some circumstances to use "banked" allowances *(i.e.* allowances from prior years) to comply with emissions limits. *See id.*

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[5] As noted above, we will not address the 8-hour portion of the SIP call.

Petitioners assert that EPA's NO_x budget program impermissibly intrudes on the statutory right of the states to fashion their SIP submissions in the first instance. In support of this position, the petitioners primarily rely on our decision in *Virginia v. EPA*, 108 F.3d 1397 (D.C. Cir.), *modified on other grounds*, 116 F.3d 499 (D.C. Cir. 1997), where we held that EPA may not use a section 110(k)(5) SIP call to order states to adopt a particular approach to achieving the SIP requirements listed in section 110. Under the rule at issue in *Virginia*, EPA required states to adopt California's vehicle emission program and in effect set the numerical emissions limitations and mandated the means for the states to achieve the necessary emissions reductions. That case involved an EPA rule that required several states to reduce ozone precursors by a particular program and only allowed states to implement a more stringent program as an alternative or substitute. We held that EPA's approach exceeded its authority under section 110 because each state retains the authority to determine in the first instance the necessary and appropriate control measures needed to satisfy section 110's standards. *See id.* at 1407-09 (citing *Train v. NRDC*, 421 U.S. 60, 78-79 (1975)).

Our holding in *Virginia* was mandated by the Supreme Court's decision in *Train v. NRDC*, 421 U.S. 60 (1975). *Train* involved a challenge to Georgia's procedures for revising source-specific emission limits adopted in a SIP. *See id.* at 68-71. The *Train* Court held that states have the authority under the CAA to initially propose specific emission limitations. *See id.* at 79. The Court defined "emission limitations" as "*regulations of the composition of substances* emitted into the ambient air from such sources as power plants, service stations, and the like. They are the *specific rules to which operators of pollution sources are subject*, and which if enforced should result in ambient air which meets the national standards." *Id.* at 78 (emphasis added). The Court further held that EPA has only "a secondary role in the

process of determining and enforcing the *specific, source-by-source* emission limitations." *Id.* at 79 (emphasis added). The *Train* decision and subsequent precedent make clear that section 110 left to the states "the power to [initially] determine *which sources* would be burdened by regulation and to *what extent*." *Union Elec. Co. v. EPA*, 427 U.S. 246, 269 (1976) (emphasis added); *cf. Virginia*, 108 F.3d at 1399, 1401, 1408 (involving a source-specific program); *Riverside Cement Co. v. Thomas*, 843 F.2d 1246, 1247-48 (9th Cir. 1988) (citing *Train* and noting EPA's secondary role in enforcing source-by-source emissions limitations). As we elaborated in *Virginia*, "the Supreme Court decided . . . that [section 110] did not confer upon EPA the authority to condition approval of [a state's] implementation plan . . . on the state's adoption of a specific control measure." *Virginia*, 108 F.3d at 1408. For the reasons set forth below, we conclude that the NO_x budgets do not fall within the realm of impermissible SIP call regulation as defined in *Virginia* and *Train*.

Given the *Train* and *Virginia* precedent, the validity of the NO_x budget program underlying the SIP call depends in part on whether the program in effect constitutes an EPA-imposed control measure or emission limitation triggering the *Train-Virginia* federalism bar: in other words, on whether the program constitutes an impermissible source-specific means rather than a permissible end goal. However, the program's validity also depends on whether EPA's budgets allow the covered states real choice with regard to the control measure options available to them to meet the budget requirements.

Section 110(a)(2)(D) requires SIPs to contain adequate provisions prohibiting emissions from "any source or other type of emissions activity within the State" that "contribute significantly" to NAAQS nonattainment in another state. Here, EPA mandates that 22 states and the District of Columbia implement section 110(a)(2)(D) using its NO_x budget system. In essence, the NO_x budget in question is an EPA

mandate prohibiting NO_x emissions in the 23 jurisdictions from exceeding a tonnage specific to that jurisdiction. *See* 63 Fed. Reg. 57,356 at 57,491-493 (1998). Of concern to petitioners, the budget rule prohibits states from seeking compliance, in whole or part, by controlling VOC emissions even though VOCs as well as NO_x emissions contribute to ozone problems. *See, e.g., id.* at 57,359; *see also* 40 C.F.R. § 52.31(b)(7) (1998) (defining ozone precursors).

Yet, the budget plan's defining aspects do not necessarily cause the program to conflict with the limiting principles contained in *Train* and *Virginia*. Analyzing the budget rule together with the relevant precedent, we hold that based on section 110's silence, EPA reasonably interpreted section 110 as providing it with the authority to determine a state's NO_x significant contribution level and agree with EPA that the NO_x budget plan does no more than project whether states have reduced emissions sufficiently to mitigate interstate transport. *See* 63 Fed. Reg. at 57,368.

Under section 110, EPA must "approve a [SIP] submittal as a whole if it meets all of the applicable requirements of [the Act]." 42 U.S.C. § 7410(k)(3). While the states have considerable latitude in fashioning SIPs, the CAA "nonetheless subject[s] the States to strict minimum compliance requirements" and gives EPA the authority to determine a state's compliance with the requirements. *Union Elec. Co.*, 427 U.S. at 256-57 (referring to the requirements contained in the statute). Given EPA's authority to ensure that submitted SIPs adequately prohibit significantly contributing emissions, EPA permissibly relied on its general rulemaking authority to prospectively inform the states of EPA's significance determinations.

Moreover, EPA does not tell the states how to achieve SIP compliance. Rather, EPA looks to section 110(a)(2)(D) and merely provides the levels to be achieved by state-determined compliance mechanisms. Specifically, EPA set NO_x

reduction levels based, in part, on assumptions about reductions obtainable through highly cost-effective controls. *See* Final Rule, 63 Fed. Reg. at 57,426. However, EPA made clear that states do not have to adopt the control scheme that EPA assumed for budget-setting purposes. *See id.* at 57,369-370. States can choose from a myriad of reasonably cost-effective options to achieve the assigned reduction levels. *See, e.g., id.* at 57,438 (noting possibilities with regard to mobile sources); *id.* at 57,378 (noting possibilities with regard to stationary sources); *id.* at 57,416. While EPA bases the budgets here on "highly cost-effective" control measures, the states remain free to implement other "cost-effective" or "reasonably cost-effective" measures in place of the ones identified by EPA. *See id.* at 57,378; 63 Fed. Reg. 60,318 at 60,328 (1997) (noting that "one State may choose to primarily achieve emissions reductions from stationary sources while another State may focus on emissions reductions from the mobile source sector"). More importantly, EPA went so far as to give the states "full discretion in selecting . . . controls," 63 Fed. Reg. at 57,378, thereby allowing states to attain their budgets by imposing even quite unreasonable, very cost-ineffective controls. In *Virginia*, we did not bar EPA from permitting more costly alternatives but rather alternatives states would consider "unreasonable or impracticable." Here, EPA accommodates *Virginia's* mandate by allowing reasonable control alternatives and allowing states to focus reduction efforts based on local needs or preferences. *See* 63 Fed. Reg. at 57,369; *id.* at 57,399-405; 62 Fed. Reg. at 60,328. Thus, real choice exists for the covered states.

Regarding EPA's decision not to rely on VOC reductions, EPA reasonably concluded that long-range ozone transport can only be addressed adequately through NO_x reductions. Petitioners' reliance and emphasis on VOC reductions in lieu of NO_x reductions ignores the scientific basis for EPA's rule. OTAG and EPA concluded that VOC controls would not

effectively address interstate ozone transport. Furthermore, states can cure any NO_x reduction "disbenefits" with corresponding optional VOC controls. *See* 62 Fed Reg. at 60,344-345; 63 Fed. Reg. at 57,425. Thus, the SIP call cannot be invalidated merely because EPA reasonably chose not to regulate VOCs.

In sum, we conclude that EPA's NO_x budget program reasonably establishes reduction levels and leaves the control measure selection decision to the states. In addition, unlike the rule invalidated in *Virginia*, states implementing alternative control measures will not be penalized with more stringent emissions targets. Since the challenged budget program does not mandate a "specific, source-by-source emission limitation[ ]," the NO_x budget plan does not run afoul of *Train* or *Virginia*.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act ("RFA"), 5 U.S.C. §§ 601-612, as amended in 1996 by the Small Business Regulatory Enforcement Fairness Act ("SBREFA"), Pub. L. No. 114-121, Title II, 110 Stat. 847, 857-74, §§ 201-253 (codified at 5 U.S.C. §§ 601-612 (1994 & Supp. II 1996)), requires an agency, when proposing a rule for notice and comment, to "prepare and make available for public comment an initial regulatory flexibility analysis . . . . [that] describe[s] the impact of the proposed rule on small entities," 5 U.S.C. § 603(a), including small businesses, small organizations, and small governmental jurisdictions. *See id.* § 601(6). In addition, when promulgating a final rule, an agency must "prepare a final regulatory flexibility analysis" that describes, among other things, "a summary of the significant issues raised by the public comments in response to the initial regulatory flexibility analysis, a summary of the assessment of the agency of such issues," and "the steps the agency has taken to minimize the significant economic impact on small entities." *Id.* § 604(a).

However, these analyses are not required if the agency "certifies that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities." *Id.* § 605(b). In the instant case, EPA certified that the proposed and final rule will not have a significant economic impact on a substantial number of small entities and, accordingly, did not perform any regulatory flexibility analysis. *See* Final Rule, 63 Fed. Reg. at 57,478; Proposed Rule, 62 Fed. Reg. at 60,375. RFA petitioners contend that EPA's certification was improper and in violation of the RFA. We disagree.

The court has consistently held that the RFA imposes "no obligation to conduct a small entity impact analysis of effects on entities which it does not regulate." *Motor & Equip. Mfrs. Ass'n. v. Nichols,* 142 F.3d 449, 467 (D.C. Cir. 1998) (quoting *United Distribution Cos. v. FERC,* 88 F.3d 1105, 1170 (D.C. Cir. 1996)); *see also American Trucking,* 175 F.3d at 1044. Therefore, the key issue in evaluating EPA's § 605(b) certification is whether the NO_x SIP call "regulates" small entities.

EPA based its certification on its view that the NO_x SIP call "would not establish requirements applicable to small entities" because "it would require States to develop, adopt, and submit SIP revisions that would achieve the necessary NO_x reductions and would leave to the States the task of determining how to obtain those reductions, including which entities to regulate." Final Rule, 63 Fed. Reg. at 57,478. We agree with EPA's statement that the SIP call does not directly regulate individual sources of emissions. The instant case is thus analogous to *American Trucking,* which upheld EPA's certification under § 605(b) because the revised NAAQS at issue "regulate small entities only indirectly—that is, insofar as they affect the planning decision of the States." *American Trucking,* 175 F.3d at 1044. Therefore, we conclude that EPA's certification under § 605(b) is justified.

IV. *Remaining Claims*

A. Definition of "NO_x Budget Unit"

RFA petitioners also contend that EPA arbitrarily revised the definition of a "NO_x budget unit" to bring certain small sources within the scope of the core group of emission-producing sources to which the NO_x Budget Trading Rule ("model trading rule") applies.[6] This contention is meritless.

In the proposed rule, a "NO_x budget unit" was defined as a boiler that either serves electricity generators with a capacity greater than 25 megawatts ("MW") or does not serve generators but has a design heat capacity of greater than 250 million Btu/hr ("mmBTu/hr"). *See* Supplemental Notice for the Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone ("Supplemental Notice of Proposed Rule"), 63 Fed. Reg. 25,902, 25,978 (1998). EPA sought comment on "the appropriateness of including [such] categories . . . , whether the size cut-offs should be higher or lower for these source categories, and the appropriateness of including other source categories in the core group." *Id.* at 25,923. In the final rule, EPA discussed and revised the definition to expand the core group by including large boilers—those with design heat capacity of greater than 250 mmBtu/hr—even if they served

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[6] To assist states in meeting their budgets and to facilitate the most cost-effective reductions, the SIP call established a model rule for interstate trading of NO_x "allowances." Each state can choose whether to adopt the model rule, which will be administered by EPA, to adopt its own trading program, or to have no trading program at all. *See* Final Rule, 63 Fed. Reg. at 57,456-58.

The core group definition is used to set the minimum requirements that a State would have to include in its trading rule in order to participate in the EPA-managed multi-state trading program. *See id.* at 57,461. EPA viewed that setting such requirements was necessary for controlling the administrative costs of managing the trading program. *See id.*

generators with a capacity less than 25 MW. *See* Final Rule, 63 Fed. Reg. at 57,518. EPA explained that it was making this change in order to address the concern raised in the comments about excluding large boilers with high levels of emission just because they happen to serve small generators. *See id.* at 57,461.

EPA's revision is reasonable. The only argument that RFA petitioners seem to have against the change is that it contradicts EPA's statement elsewhere that "small electrical generators less than 25 MW . . . will be exempt under the final model rule." *Id.* at 57,463. It is unclear why this statement renders EPA's final action arbitrary. EPA's definition of a NO_x budget unit and the reasons for its change are set forth in the preamble to the final rule, and the most that the RFA petitioners have demonstrated is that EPA made at least one statement that was, as EPA concedes in its brief, "incomplete in that it did not address the case of large boilers with small generators." Such a minor oversight in the drafting of the preamble to the final rule does not render the substantive decision by EPA arbitrary.

B. Council of Industrial Boiler Owners

1. Introduction

In the rulemaking, EPA distinguished between electricity generating units ("EGUs") and non-electricity generating units ("non-EGUs"). Council of Industrial Boiler Owners ("CIBO"), a trade association whose membership consists of companies and universities operating industrial boilers and turbines ("industrial boilers"), which constitute one category of non-EGUs, challenges the NO_x SIP call for being based on the following arbitrary and capricious actions by EPA: EPA's failure to determine whether non-EGUs are significant contributors, EPA's flawed cost assumptions in its determination of cost-effective control measures for non-EGUs, EPA's erroneous calculation of non-EGU budgets, and EPA's

arbitrary redefinition of the term "EGU." We agree only that EPA's redefinition of EGUs was arbitrary and capricious.

2. Significant Contribution of Industrial Boilers

CIBO challenges EPA's decision to include non-EGU boilers in the rule without having isolated non-EGU emissions to determine whether they "significantly contribute" to the interstate ozone transport problem and whether implementing highly cost-effective emissions reduction measures on industrial boilers would ameliorate nonattainment in downwind states. CIBO maintains that non-EGU boilers typically have significantly shorter stacks than EGUs and that their emissions, as a result, fall below the "mixing layer" that promotes long-range NO_x transport. Therefore, CIBO contends, industrial boilers as a group can have no impact on long-range ozone transport. However, this factual claim fails in view of contrary evidence in the record. OTAG's Executive Report states as one of its major conclusions that "[b]oth elevated (from tall stacks) and low-level NO_x reductions are effective." Executive Report at 4. EPA reiterated this finding by OTAG in the NPRM, *see* Proposed Rule, 62 Fed. Reg. at 60,332, it relied on the finding, and it appears that members of CIBO never challenged it during the comment period. Therefore, we cannot say EPA's inclusion of non-EGUs in the group of significantly contributing sources was arbitrary.

3. Cost-Effectiveness Calculation for Industrial Boilers' Control Measures

CIBO also challenges EPA's conclusion that industrial boilers could achieve a 60% emissions reduction using highly cost-effective control measures, *see* Final Rule, 63 Fed. Reg. at 57,418, as based on flawed cost calculations. More specifically, CIBO lists the following alleged problems in EPA's cost assumptions:

—EPA's assumption of 10 years as the lifetime of all control measures for industrial boilers, except for selective

catalytic reduction and selective non-catalytic reduction controls, for which 20 years was assumed.

—EPA's use of a 10% discount rate, not 7%, in its cost-effectiveness analysis.

—EPA's failure to take into account the fact that control effectiveness can vary by as much as 10% to 20%.

—EPA's failure to take into account cost and feasibility implications of load variability and firing of multiple fuels.

—EPA's assumption of NO_x emission allowance costs of $2,000 per ton, when emission allowances trade for $5,500 to $6,300 per ton.

The general problem of these criticisms is that CIBO merely lists several items as problems and labels all of them "irrational" without explaining why its claims should concern the court. Given that almost all of CIBO's challenges involve technical details on which the court generally defers to the agency's expertise, CIBO's failure to explain why the so-called problems it identifies amount to an arbitrary and capricious decisionmaking is fatal to its claims.[7] Therefore, we reject CIBO's claims regarding EPA's underlying cost assumptions about industrial boilers.

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[7] For instance, the last item on the list, that it is arbitrary and capricious for EPA to assume NO_x emission allowance costs of $2,000 per ton when emission allowances now trade for $5,500 to $6,300 per ton, is insufficiently explained. Of course, if the firms in the market generating entitlement prices of $5,500 to $6,300 per ton were regulated at the same degree of stringency as EPA contemplates for firms expected to be burdened under the present rule, the market price would be strong evidence that compliance would cost far more than the $2,000 per ton figure that EPA has used. No one would pay $6,000 for an entitlement to emit a ton that he could remove at a cost of $2,000; the price of an entitlement could not exceed the marginal removal cost. But if the prices to which CIBO points arose among firms more stringently regulated, there would be no such contradiction. CIBO has not even endeavored to show equivalent stringency.

4. Determination of Non-EGU Component of State NO_x Budgets

CIBO contends that EPA's calculation of the non-EGU component for the State NO_x budget lacks adequate support in the record and lists the following as problems:

—Non-EGU inventories had errors.

—EPA's use of Bureau of Economic Analysis growth factor to project 2007 emission levels have "inherent error."

—EPA employed "crude extrapolations" to identify large non-EGU boilers.

—The "default boiler capacity file" is not in the record and the record does not reveal how EPA manipulated the data.

—The source of Bureau of Economic Analysis growth factors is not identified in the record, and the record does not show how EPA manipulated the data.

—It is unknown whether EPA credited NO_x reductions from fluidized-bed combustion technology.

Again, CIBO merely presents a list of problems without explaining why these alleged errors render EPA's rulemaking arbitrary or capricious. In addition, CIBO members had repeated opportunities to provide correct information for some of these items during the rulemaking process. CIBO's poorly articulated, blanket accusations at this late stage contribute little to improve the quality of agency rulemaking; therefore, we reject CIBO's challenges regarding EPA's calculation of NO_x budgets for non-EGUs.

5. Definition of EGU

More persuasively, CIBO contends that EPA revised the definition of "EGU" without adequate notice. Throughout the rulemaking, EPA defined an EGU as it did under the acid rain program, which excludes from the category of "utility units" those cogeneration units that sell less than one-third of

their potential electrical output capacity or less than 25 MW per year. *See* 42 U.S.C. § 7651a(17)(C). However, two months after the promulgation of the rule, EPA redefined an EGU as a unit that serves a "large" generator (greater than 25 MW) that sells electricity. CIBO contends that EPA did not provide sufficient notice and opportunity to comment on this revision, especially considering that the industrial boilers have relied on the previous definition for a number of years. We agree.

EPA maintains that it provided adequate notice in the May 1998 supplemental notice, stating that "deregulation of electric utilities" means that "it is not clear how ownership of the electricity generating facilities will evolve." Supplemental Notice of Proposed Rule, 63 Fed. Reg. at 25,923. Given that "there is no relevant physical or technological difference between utilities and other power generators," EPA proposed, "all large electricity generating sources, regardless of ownership," should be treated the same. *Id.* There are several problems with EPA's response. First, it is undisputed that EPA was departing from the definition of EGUs as used in prior regulatory contexts, and EPA was not explicit about the departure from the prior practice until two months after the rule was promulgated. Neither the proposed rulemaking in November 1997 nor the final rule in October 1998 introduced the new definition. EPA waited until the December 1998 correction notice to announce that it will "classify as an EGU any boiler . . . that is connected to a generator greater than 25 MWe from which any electricity is sold." Correction and Clarification to the Finding of Significant Contribution and Rulemaking for Purposes of Reducing Regional Transport of Ozone ("Correction Notice to Final Rule"), 63 Fed. Reg. 71,220, 71,223 (1998). After the December correction notice, EPA reopened the comment period for sixty days for comments on this and other issues. In EPA's May 1999 response to the comments, EPA, for the first time, discussed why the change was necessary and offered a justification

largely based on recent changes in the electric power industry. *See* Responses to the 2007 Baseline Sub-Inventory Information and Significant Comments for the Final NO_x SIP Call 10-12 (May 1999) ("Responses to Final Comments").

As to the statement in the May 1998 supplemental notice that EPA claims constitutes notice, this statement was given in EPA's discussion of how the core group of sources for the model trading rule should be defined, and not in the context of a discussion about the general distinction between EGUs and non-EGUs for the purposes of calculating state budgets. *Cf. Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 550 (D.C. Cir. 1983). Moreover, EPA also explicitly observed in the same May notice discussion about the model trading rule that "[m]any of the definitions . . . are the same as those used in . . . the Acid Rain Program regulations, in order to maintain consistency among programs." Supplemental Notice of Proposed Rule, 63 Fed. Reg. at 25,923. Given the vague and conflicting signals that EPA was sending, it is an exaggeration to state that some general "theme" of the regulatory consequences of deregulation of the utility industry throughout rulemaking meant that EPA's last-minute revision of the definition of EGU should have been anticipated by industrial boilers as a "logical outgrowth" of EPA's earlier statements. *See American Water Works Ass'n. v. EPA*, 40 F.3d 1266, 1274-75 (D.C. Cir. 1994).

EPA contends that even assuming that CIBO did not have adequate notice and opportunity to comment on the EGU definition, the error has been cured because it reopened the comment period on this issue after its announcement of the revision. *See* Correction Notice to Final Rule, 63 Fed. Reg. at 71,221-23. This response is to no avail. During the new comment period, some commenters complained that there had not been sufficient notice and opportunity to comment on the EGU redefinition. *See* Responses to Final Comment, at 12.

EPA's response to this charge primarily relied on the claim that there had been adequate notice prior to the redefinition, *see id.*, and we have already rejected that argument.

Therefore, we conclude EPA did not provide sufficient notice and opportunity to comment for its redefinition of EGUs and remand the rulemaking to EPA for further consideration in light of this opinion.

C. INGAA

Interstate Natural Gas Association of America ("INGAA"), a trade association that represents major interstate natural gas transmission companies in the United States, contends that EPA did not provide adequate notice and opportunity to comment on the control level assumed for "large" stationary internal combustion ("IC") engines in its determination of state NO_x budgets. We agree.

EPA's NPRM in November 1997 assumed a 70% control level for large IC engines, *see* Proposed Rule, 62 Fed. Reg. at 60,354, after considering and rejecting an 80% control level. *See id.* at 60,348. Then, in the supplemental notice in May 1998, EPA continued to assume the 70% control level. *See* Supplemental Notice of Proposed Rule, 63 Fed. Reg. at 25,908. EPA stated in the same notice that it "intends to further analyze" control approaches for IC engines and said that "[a]s the above analyses are completed, EPA intends to place them in the docket." *Id.* at 25,909. EPA did not present a new analysis until September 4, 1998, when it concluded that a 90% control level was more appropriate for large IC engines. *See* Technical Support Document for Stationary International Combustion Engines 2 (September 4, 1998). When the rule was finally promulgated in October 1998, EPA stated that it was assuming a 90% control level. *See* Final Rule, 63 Fed. Reg. at 57,418.

INGAA contends that EPA's switch from 70% to 90% for large IC engines was unanticipated and that EPA should have

allowed comments on the issue. Considering EPA's repeated affirmation of the 70% assumption throughout rulemaking and rejection of a higher, 80% assumption earlier, a revision in its assumption less than one month before the final rule was promulgated hardly provided adequate notice, especially given the magnitude of the consequences of the proposed change on the regulated bodies. Therefore, we remand for further consideration on this issue.[8]

In addition, INGAA challenges EPA's definition of large IC engines. EPA, in the final rule, distinguished between large and small sources by defining a "cutoff level." 63 Fed. Reg. at 57,414. EPA assumed no control for sources below the cutoff level and defined small sources as units with a capacity less than or equal to 250 mmBtu/hr and with emissions less than or equal to one ton per day. *See id.* at 57,415. EPA added that "EPA is relying on a capacity approach first and a tons per day approach second (where a capacity data is not available or appropriate)" to define small sources. *Id.* at 57,416. Then, in the December correction notice, EPA largely repeated the same methodology for determining the cutoff level, but added that "[a] stationary internal combustion engine and a cement plant were determined to be 'large' if its 1995 average daily ozone season emissions were greater than one ton." Correction Notice to Final Rule, 63 Fed. Reg. at 71,224.

INGAA contends that EPA did not follow its own standard in the correction notice and singled out IC engines and cement plants without explanation. Although EPA's various statements on this issue throughout rulemaking have not always been very clear or entirely consistent, EPA went

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[8] INGAA further contends that, even putting aside the notice issue, the documents that EPA relies on do not support EPA's assumption of 90% control level. Because we are remanding on the basis of the conclusion that there was inadequate notice, we do not reach the merits of the issue.

through an extensive comment period on this issue, *see* Final Rule, 63 Fed. Reg. at 57,415-17, and we agree with EPA that the change that INGAA criticizes for being arbitrary is merely a minor clarification that satisfies the reasonableness standard.

D. PP&L

1. EPA's Restrictions on Early Reduction Credits

PP&L, an electric utility that owns several generating stations in Pennsylvania, contends that EPA arbitrarily limited the number of "early reduction credits" ("ERCs"). We disagree.

Under the SIP call, a source can generate ERCs if it reduces its NO_x emissions before May 2003 to a level below that is required by any regulatory scheme. ERCs can then be used to compensate for emitting emissions above required levels in a later time period. *See* Final Rule, 63 Fed. Reg. at 57,430. EPA limited the amount of available ERCs for each state to the size of each state's compliance supplement pool ("CSP"). *See id.* at 57,474. The CSP is an additional allowance of emissions that allows states to emit 200,000 tons of NO_x in the 2003-2004 ozone seasons over the state emissions budgets. *Id.* at 57,428. EPA created the CSP in response to the comments that if all utilities had to install pollution control equipment by May 1, 2003, there might be disruptions in electricity supply. *See id.* If a state chooses to use the CSP, it can either provide ERCs or distribute the allowances to sources that demonstrate a need for the compliance supplement. *See id.* at 57,429-30.

PP&L contends that imposing this limit on the number of ERCs is arbitrary and capricious because placing any limit on ERCs is environmentally counterproductive. We do not find this contention persuasive. EPA noted during the comment period that ERCs, although generally beneficial, can be costly in that they allow states to exceed their budgets. *See* Responses to Significant Comments on the Proposed Finding of

Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group (OTAG) Region for Purposes of Reducing Regional Transport of Ozone 346 (September 1998) ("Responses to Comments"). EPA noted further that the CSP, by establishing a cap on the number of allowances to be distributed, limited such potential costs. *Id.* EPA's decision is thus reasonable.

PP&L also contends that EPA has not demonstrated why the "flow control mechanism" is not sufficient to address its concern. Under the flow control mechanism, the use of banked allowances exceeding 10% of the emissions budget for sources in the trading program is either flatly prohibited or discouraged by discounting the value of ERCs used as such, and states can choose between either method. *See* Final Rule, 63 Fed. Reg. at 57,431-32. This complaint by PP&L overlooks the fact that EPA included the flow control mechanism in the regulatory scheme "[a]s a final safeguard limiting the impact of additional allowances eligible for banking in the system." Responses to Comments, at 346. Therefore, it was a safeguard created in addition to the CSP limitation. It was within EPA's discretion to devise multiple limitations to contain the environmental cost of ERCs.

PP&L further contends that, even if it is rational for EPA to place a limit on the amount of ERCs, EPA's choice of setting the limit at the same amount as the CSP is arbitrary and capricious. This contention fails as well. The record shows that EPA allowed ERCs merely as a mechanism for managing the CSP, not as an independent program with a purpose separate from that of the CSP. *See* Final Rule, 63 Fed. Reg. at 57,428-33. Therefore, EPA's decision to limit the amount of ERCs to the size of the CSP was reasonable.

2. Emissions Multiplier for Low Mass Emission Units

PP&L also contends that EPA arbitrarily required "low mass emission units" ("LMEUs") to use a 15% multiplier to calculate their emissions. We disagree.

EPA allows LMEUs either to use a generic default NO_x or to determine a unit-specific NO_x emission rate by conducting a stack test once every five years. Because EPA found that the stack test results can vary by 15% or more depending on atmospheric conditions, EPA requires an LMEU to calculate its emissions rate by adding 15% to the stack test result. *See* Final Rule, 63 Fed. Reg. at 57,490.

PP&L contends that this is unreasonable because EPA has stated that the testing would likely underestimate emissions during cooler less humid conditions. *See id.* PP&L reasons that because the SIP call applies only during summer seasons (when ozone forms), that the stack test underestimates emissions during the winter cannot justify the 15% multiplier. This contention is to no avail. Because the record contains evidence that NO_x rates determined by the stack test can vary widely even during the ozone season, EPA's decision was reasonable. *See* Docket A-97-35, Item IV-A-1 at 43-54 (August 26, 1998).

Conclusion

We vacate EPA's final rule with respect to Wisconsin, Missouri, and Georgia *(see* Part II.A-B). These cases are remanded for further consideration in light of this opinion. We hold that EPA failed to provide adequate notice of a change in the definition of an electric generating unit *(see* Part IV.B.5), and that EPA did not provide adequate notice of a change in the control level assumed for large stationary internal combustion engines (*see* Part IV.C). These cases are also remanded.

In all other respects, the petitions for review are denied.

So ordered.

SENTELLE, *Circuit Judge, dissenting*: Unlike the majority's journey through this regulatory scheme, mine is neither lengthy nor complex, because I get off at the first stop. In promulgating the regulations at issue, EPA purported to exercise the authority Congress conferred upon it to enforce the requirements of 42 U.S.C. § 7410(a)(2)(D)(i)(I) which empowers the Administrator to police the contents of State Implementation Plans ("SIPs"), specifically to ensure that such plans contain

> adequate provisions . . . prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . *contribute significantly* to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard . . . .

42 U.S.C. § 7410(a)(2)(D)(i)(I) (1994) (emphasis added). EPA is a federal agency—a creature of statute. It has no constitutional or common law existence or authority, but only those authorities conferred upon it by Congress. If there is no statute conferring authority, a federal agency has none. The only statute upon which EPA purports to rely in the current controversy is § 7410(a)(2)(D)(i)(I). That section provides authority for EPA to require States to act in a certain fashion based upon the presence of sources or activities which emit "pollutants in *amounts* which will . . . *contribute significantly* to nonattainment." It would appear to me that Congress clearly empowered EPA to base its actions on amounts of pollutants, those amounts to be measured in terms of significance of contribution to downwind nonattainment. Instead, EPA has chosen, doubtless in the pursuit of beneficent ends, to assert authority to require the SIPs to contain provisions based not on the amounts of pollutants, nor even on the relative significance of the contributions of such pollutants to downwind nonattainment, but on the relative cost effective-

ness of alleviation. I agree with the State petitioners that it is undeniable that EPA has exceeded its statutory authority.

We have before had occasion to remind EPA that its mission is not a roving commission to achieve pure air or any other laudable goal. In *American Petroleum Institute v. United States EPA*, 52 F.3d 1113 (D.C. Cir. 1995), we reviewed an EPA rule requiring that thirty percent of the oxygen in reformulated gasoline be derived from renewable sources, such as ethanol. The statutory authority under which EPA operated, 42 U.S.C. § 7545(k)(1) empowered EPA to promulgate regulations achieving "the greatest reduction in emissions of ozone forming volatile organic compounds . . . ." 42 U.S.C. § 7545(k)(1). Although EPA advanced commendable goals of economic benefit for its inclusion of the additional goal of ethanol market protection, we struck down the overreaching and reminded EPA that "it is axiomatic that an administrative agency's power to promulgate legislative regulations is limited to the authority delegated by Congress." *API*, 52 F.3d at 1119 (quoting *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988)).

Similarly, in *Ethyl Corp. v. EPA*, 51 F.3d 1053 (D.C. Cir. 1995), we considered EPA's denial of a Clean Air Act waiver application based on health considerations. We did not suggest that EPA acted in bad faith or that health considerations were not important, but we repaired to the statutory grant of authority in 42 U.S.C. § 7545(f)(4), which based the Administrator's authority to deny waiver solely on the property of an additive to "cause or contribute to a failure of any emission control device or system . . . ." 42 U.S.C. § 7545(f)(4). We again granted the petition for review of the Administration's action, reminding EPA that where "the plain language of a provision makes it clear that . . . decisions are to be based on one criterion, the EPA cannot base its decision on other criteria," even on a criterion as laudable as the health of the public. *Ethyl Corp.*, 51 F.3d at 1058.

For all the majority's discussion of inconsistent arguments by States and the possibility of taking costs into account elsewhere raised by the Administration and adopted by the majority, I do not see why the present controversy does not fall squarely within the four corners of *API* and *Ethyl Corp.* Congress set forth one criterion: the emission of an amount of pollutant sufficient to contribute significantly to downwind nonattainment. EPA adopted a different criterion: the cost effectiveness of alleviation. I would remind the agency once more of the lessons of *API* and *Ethyl Corp.*, allow the petitions for review, and end the case.

The majority makes a fundamental mistake by divorcing the adverb "significantly" from the verb it modifies, "contribute." The majority compounds its error by divorcing significantly from the rest of the statutory provision in issue. Maj. Op. at 19-23. By focusing on "significance" or what it means to be "significant," the majority ignores the fact that the statute permits EPA to address that which is "*contribut[ed]* significantly." 42 U.S.C. § 7410(a)(2)(D)(i)(I) (emphasis added). And what should EPA look for as being contributed significantly? Congress clearly answered that question for the agency as being an "amount" of an "air pollutant." *Id.* Considering that Congress expressly gave EPA authority with regard to "any *air pollutant* in *amounts* which will . . . *contribute* significantly to nonattainment . . . ," *id.* (emphasis added), I marvel at an interpretation that permits cost effectiveness to find a place in a statutory provision addressing amounts of air pollutant contribution. While the contribution must affect nonattainment significantly, no reasonable reading of the statutory provision in its entirety allows the term significantly to springboard costs of alleviation into EPA's statutorily-defined authority. Given § 7410(a)(2)(D)(i)(I)'s mandate as a whole, it becomes clear that EPA and the majority have to contort the statute's language by isolating the term significantly and ignoring the terms air pollutant, amounts, and contribute in order to work cost considerations

into the statute. I just cannot agree with such an unusual exercise in statutory construction.

I see nothing in *Chevron U.S.A. Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984), that either compels or counsels the majority's result. EPA argues that Congress did not define significant contribution. True, it did not. Neither did it define amount. But neither EPA nor the majority have offered any reasonable interpretation of those words which makes them depend upon or even relate to the cost effectiveness of alleviation.[1] EPA comes close to arguing: Congress has not expressly forbidden us to use this criterion, therefore we may use it. As we said in *Ethyl Corp.*:

> To suggest, as the [EPA] effectively does, that *Chevron* step two is implicated any time a statute does not expressly *negate* the existence of a claimed administrative power . . . , is both flatly unfaithful to the principles of administrative law . . . and refuted by precedent.

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[1] Contrary to the suggestion of the majority, neither of the cases cited by the majority bear any implication that the cost of alleviating or otherwise dealing with risk expressed as a noun or a verb has any effect upon the definition of "significant" or "significantly" used as an adjective or adverb modifying that noun or verb. The portion of *Industrial Union Department v. American Petroleum Institute*, 448 U.S. 607, 655 (1980) (plurality opinion) quoted by the majority to the effect "that a 'significant' risk . . . is not a mathematical straitjacket," (Maj. Op. at 20) does not deal in any fashion with the cost of alleviation. Rather, Justice Stevens in that opinion was contrasting the significance of a one-in-a-billion chance of cancer from drinking chlorinated water against the one-in-a-thousand risk that regular inhalation of certain benzene-containing vapors would be fatal. Obviously, the "significance" of the risk deals with its importance, not the cost of its alleviation. Equally off point is *International Union, United Auto Workers v. OSHA*, 37 F.3d 665, 668-69 (D.C. Cir. 1994), which concerned the cost-effectiveness of alleviating measures directed at risk theretofore determined to have been significant, not with the use of cost-effectiveness in determining the significance of the risk *vel non*.

51 F.3d at 1060. Because the majority's deference to EPA's unreasonable statutory interpretation as couched in the agency's scurrilous "second-step" cost effectiveness analysis ventures off track, as I said, I am getting off at the first stop.

Because I would invalidate the regulatory scheme before us at its inception, I will not address the subsidiary issues pursued by my colleagues.

[Filed Jun 22, 2000]

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT
September Term, 1999

No. 98-1497

STATE OF MICHIGAN, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY AND STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION,

Petitioners

v.

ENVIRONMENTAL PROTECTION AGENCY,

Respondent

NEW ENGLAND COUNCIL, INC., *et al.*,

Intervenors

Consolidated with

98-1499, 98-1500, 98-1501, 98-1502, 98-1504, 98-1518, 98-1556, 98-1567, 98-1573, 98-1585, 98-1588, 98-1590, 98-1596, 98-1598, 98-1601, 98-1602, 98-1608, 98-1609, 98-1611, 98-1615, 98-1616, 98-1617, 98-1618, 98-1619, 98-1621, 99-1070, 99-1093

BEFORE: WILLIAMS, SENTELLE AND ROGERS, *Circuit Judges*.

ORDER

Upon consideration of the petitions for rehearing of the Industry/Labor petitioners and of the petitioning States, filed April 20, 2000, and of the response thereto, it is

ORDERED that the petitions be denied.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

BY: /s/ Robert A. Bonner
ROBERT A. BONNER
Deputy Clerk

Circuit Judge Sentelle would grant the petition of the Industry/Labor parties and Part I of the petition of the petitioning States.

[Filed Jun 22, 2000]

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT
September Term, 1999

No. 98-1497

STATE OF MICHIGAN, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY AND STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION,

Petitioners

v.

ENVIRONMENTAL PROTECTION AGENCY,

Respondent

NEW ENGLAND COUNCIL, INC., *et al.*,

Intervenors

Consolidated with

98-1499, 98-1500, 98-1501, 98-1502, 98-1504, 98-1518, 98-1556, 98-1567, 98-1573, 98-1585, 98-1588, 98-1590, 98-1596, 98-1598, 98-1601, 98-1602, 98-1608, 98-1609, 98-1611, 98-1615, 98-1616, 98-1617, 98-1618, 98-1619, 98-1621, 99-1070, 99-1093

BEFORE: EDWARDS, Chief Judge; SILBERMAN, WILLIAMS, GINSBURG, SENTELLE, HENDERSON, RANDOLPH, ROGERS, TATEL and GARLAND, *Circuit Judges*

ORDER

The petitions for rehearing en banc of the Industry/Labor petitioners, the petitioning States, and the response thereto have been circulated to the full court. The taking of a vote

was requested. Thereafter, a majority of the judges of the court in regular active service did not vote in favor of the petition. Upon consideration of the foregoing, it is

ORDERED that the petition be denied.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

BY: /s/ Robert A. Bonner
ROBERT A. BONNER
Deputy Clerk

Circuit Judge Sentelle would grant the petition of the Industry/Labor petitioners and Part I of the petition of the petitioning States.

Circuit Judges Tatel and Garland did not participate in this matter.

[Mandate Issued: 9/13/00]
/s/ E Brown Deputy Clerk
[Filed Mar. 3, 2000]

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 98-1497

STATE OF MICHIGAN,
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY AND
STATE OF WEST VIRGINIA, DIVISION OF
ENVIRONMENTAL PROTECTION,
Petitioners

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondent

NEW ENGLAND COUNCIL, INC., *et al.*,
Intervenors

Consolidated with

98-1499, 98-1500, 98-1501, 98-1502, 98-1504, 98-1518,
98-1556, 98-1567, 98-1573, 98-1585, 98-1588, 98-1590,
98-1596, 98-1598, 98-1601, 98-1602, 98-1608, 98-1609,
98-1611, 98-1615, 98-1616, 98-1617, 98-1618, 98-1619,
98-1621, 99-1070, 99-1093

On Petitions for Review of an Order of the
Environmental Protection Agency

Before: WILLIAMS, SENTELLE and ROGERS, *Circuit Judges*.

JUDGMENT

These causes came on to be heard on the petitions for review of an order of the Environmental Protection Agency and were argued by counsel. On consideration thereof, it is

ORDERED and ADJUDGED, by the Court, that the petitions for review in Nos. 98-1567 and 99-1093 are granted, the petitions in Nos. 98-1609 and 98-1618 are granted in part and denied in part, and the remaining petitions are denied, all in accordance with the opinion for the Court filed herein this date.

FOR THE COURT:
MARK J. LANGER,
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Deputy/Clerk

Date: March 3, 2000

Opinion *Per Curiam*
Dissenting opinion filed by Circuit Judge Sentelle.